

CONTENTS

Vol. 8

MAY, 1928

No. 5

	Page		Page
<i>Editorials</i>	28	<i>The Returning Homemade</i> ..Orville H. Kneen	44
"This candy is fit to eat——"		VI. Forty centuries of sugar and candy.	
Two new sugars.		<i>M. C. Institute</i>	47
<i>Candy—A Food or a Luxury?</i>		<i>Protective Colloids</i>	48
.....Werner W. Duecker	32	A factory super gets the "up and up."	
<i>Thick—or Thin—Boiling Starches</i>		<i>Directory of Exhibitors</i>	51
.....Lowell O. Gill	34	At the N. C. A. Convention, Chicago,	
<i>Ask Me</i>	37	June 4-8, 1928.	
<i>The Candy Clinic</i>	38	<i>The Buyer's Guide</i>	5
<i>The M. C. Letterbox</i>	39	<i>The M. C. Clearing House</i>	80
<i>What Can We Do About the Summer Slump?</i>		<i>Index to Advertisers</i>	82
.....Frank Mulford	40		

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FRITZSCHE FRUIT FLAVORS IN Gums and Jellies

are *TEMPTING* and *DELICIOUS* if a truly natural fruit effect is obtained. Conditions inherent in the process of manufacture have rendered this very difficult in the case of non-citrus fruits—but it *CAN* be accomplished—and *VERY SUCCESSFULLY*.
Our

HARD CANDY FLAVORS

possess unique powers of resistance to high temperatures—imparting most delicious fresh fruit flavor effects in the finished candy. Their continued use by leading national advertisers constitutes the strongest recommendation we can offer.

*FIFTY DIFFERENT FLAVORS
AVAILABLE, INCLUDING
MANY DISTINCTIVE FRUIT,
FLORAL AND SPECIAL TYPES.*

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“A Flavor For Every Purpose”

First Producers of Certified Colors

ATLAS CERTIFIED COLORS — scientifically prepared to meet the needs of the highest type of confectioners and for every purpose in the confectionery industry — particularly for plastic and clear hard candy work.

Uniformity

Strength



Purity

Solubility

Food Color Headquarters for Fifty Years

FIFTY YEARS AGO WE PRODUCED THE FIRST HARMLESS FOOD COLORS used in the United States

(after long study by experts of their physiological effects—the first and only work of this kind ever undertaken on coal-tar colors), and after establishing their harmlessness for food, every batch was tested before being distributed. This was 30 years before certified colors came into use, of which we were the FIRST PRODUCERS. We have never yet failed to prove any official wrong who claimed to find objectionable colors in our customer's goods. No manufacturer ever suffered through the use of them. We were largely instrumental in halting opposition of important officials when the present Food and Drug Act was before Congress, who would have forbidden all food coloring if they could.

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The Progressive Manufacturer can only establish a quality product by using the best material; there are no ingredients in which confidence in the producer is so absolutely necessary or important as in Colors and Flavors. Our 75 years of business experience is a guarantee of quality products, and a sound basis for your confidence.

COLORS FOR PLASTIC WORK

Atlas Cert. New Rose

" " Marseline Orange

" " C. D. M. Green

" " Mauvine

" " 514 Brown

and many others, which will produce those beautiful and delicate shades of nature.

GENUINE FRUIT EXTRACTS

Our Genuine Fruit Extracts are not only so-called, but the product of the actual fruit whose name they bear.

The production processes are by special apparatus and methods which retain and preserve all the finest and most delicate esters and aromas of the finest selected fully ripe fruit picked where the most luscious of its kind is grown.

We shall be glad to have an order for pint samples and suggest our wonderful Genuine Fruit Strawberry and Raspberry Extracts.

H. KOHNSTAMM & CO., Inc.

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537-555 Columbia St., Brooklyn, N. Y.

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NEW YORK, N. Y.



Editorial

ROBERT RANDOLPH, Editor

"This Candy Is Fit to Eat—"

THE NEW YORKER
NEW YORK

April 19, 1928.

Dear Sir:

Do you know whether the candy you buy is made in a clean factory under fair working conditions?

There is much candy you would not eat if you could look behind the scenes. Only 3 of 25 factories where the investigator of the Consumers' League actually worked were entirely satisfactory.

The League is making a White List of Candy Manufacturers who have agreed to establish and maintain the following standards—

Wholesome Factory Conditions

Fair Wages and Hours.

Health Inspection of Workers.

A contribution no matter what its size, will help to secure safe candy for children, and for all others who eat it, and better health for the girls who make it.

May we count on your help now?

Sincerely yours,
Mary W. Dawson

THE above letter which, although of the multigraph variety, bears all the evidences of being a personal appeal, was just recently received by the director of a prominent supply firm in New York City.

It is the culmination of a very unfortunate campaign which has been allowed to spread its poisonous propaganda irrevocably through the daily press. As self-appointed champion of the downtrodden working girl (who may or may not appreciate this solicitude!), the Consumers' League of New York was probably actuated by the most altruistic and humanitarian ideals in conducting this investigation. Yet one cannot but deplore the fact that this public-spirited organization preferred, after what was surely a very incomplete survey of some 25 factories, to publish broadcast the unfavorable conditions encountered in certain of these, to the detriment of the more than 2,200 com-

mercial establishments which comprise the American confectionery industry.

Apparently no opportunity was afforded the delinquents to clear themselves of the charges or to correct whatever objectionable conditions may have existed before being summarily held up to public opprobrium, nor, so far as we are aware, was any effort made to straighten out the tangle through the vitally concerned National Confectioners' Association.

How much fairer it would have been to all concerned if the Consumers' League had first reported the results of their investigation to the association. We feel sure that these authorities would gladly have cooperated, bringing pressure to bear upon the recalcitrants and offering practical and sensible suggestions for remedying the evils complained of. The League, loyal to their ideals and as broad-minded in their sympathy for the industry as for

the general public, could have done this without in any way forfeiting the privilege of boycott which they chose rather to employ so pitilessly. After all, even if the opprobrium were deserved, it does seem a little unfair to damn a whole industry for the mistakes of a few of its members.

In a candy plant as in every other food factory, eternal vigilance is the price of cleanliness—a never-ending war must be waged against insects, rodents, bacteria, the yeasts of the air and the unsanitary habits of the workers. That this fact is appreciated by the industry is attested by the hundreds of thousands of dollars spent annually (to mention only a few things), for scientific fumigations, exterminating services, and medical supervision.

We have it on no less an authority than the U. S. Chamber of Commerce that the candy industry has grown more in the last quarter of a century than in the whole century previous. Considering how very

rapid this expansion has been, especially during the last five or ten years when about all the moneyed interests in the world decided to try a hand at the candy business, the strides which have been made toward scientific habilitation and sanitary control over this difficult foodstuff have been nothing short of remarkable.

And it is with this thought that we commend to the attention of the fair-minded ladies of the Consumers' League the many excellent articles which have appeared in this and other publications dealing with the history of the scientific progress which has been made by the confectionery industry during this trying

period. We are confident that with broader appreciation and understanding our problems there will come that wholehearted sympathy for both manufacturer and worker which is destined to bring us ultimately to that utopian condition which is our mutual goal.

You May Eat The Candy
IT IS MADE IN A
"WHITE LIST" FACTORY

To the Consumers' League of New York
289 Fourth Avenue, New York City,

Please send me

☐ Your report "Behind the Scenes in Candy Factories".

☐ Your "White List" of candy factories.

I enclose my check to assist in your efforts to better conditions in candy factories.

Name _____

Address _____

Two New Sugars

TWO new sugars of enticing possibilities came into the confectioner's fold during the past thirty days—liquid confectioners' cane syrup and anhydrous dextrose. Both are being commercialized by important although diverse sugar interests and are backed by practically unlimited capital.

Cane syrup itself is indeed no novelty to the confectioner. But cane syrup as we have always known it has been characterized by a high invert content, sometimes running as high as 50 per cent. Obviously, where a strong crystal of pure sucrose was desired, cane syrup could not be used.

The new liquid sugar contains materially under half of one per cent of invert sugar. It appears to possess all of the fine working properties of a strong, first boiling refined sugar.

It is interesting to note also that the method of distribution to be employed for this sugar will be in line with the modern tendency toward wasteless handling—which is to say, via tank wagon and pipe

line, a system already familiar to our readers and in use in approximately 130 plants throughout the country. For the present, service outside of New York City will probably be confined to tank car users.

Liquid confectioner's sugar is priced on a solids basis, and appreciably under the current quotations for refined sugar. The normal booking period is 30 days but sugars may be contracted for as far as six months ahead at a fixed toll or differential over the prevailing levels of the respective months on the N. Y. Sugar Exchange.

In addition to the savings in price, the plant savings applicable to rent of storage space, reduction of handling expense and elimination of the barrel salvage problem will commend this new sugar to manufacturers seeking to increase profit margins by cutting costs of production.

As to the new corn product—anhydrous dextrose—not much can be said concerning its applications as a candy raw material until after the necessary practical experiments have been made. Ordinary corn sugar, the more stable of the two forms of

dextrose crystal, is known as dextrose hydrate. It contains approximately 8 per cent of water of crystallization, which, while offering the advantage of "dissolving in its own juice," so to speak, entails other and as yet unsolved difficulties in working properties.

Anhydrous dextrose contains no water of crystallization. In this respect it is comparable to the one and only form of sucrose crystal. The anhydrous form of corn sugar was developed to meet a specific need of the jelly powder manufacturers. Both the ordinary dextrose crystal and the sucrose crystal do not permit complete penetration of flavors. The flavor remains more or less of a surface phenomenon with consequent diminution of the amount of flavor which a given amount of sugar will carry.

Anhydrous dextrose, being avid for the moisture of which it was deprived in forming its crystal, greedily absorbs the flavoring material and a practically 100 per cent penetration of flavor is said to be secured. What significance this and other properties of the new corn sugar will have in confectionery manufacture remains to be worked out by the chemists and practical men of the industry.

Announcing the New Program and Plans for the N. C. A. Campaign

ONE of the important sessions of the convention of the National Confectioners' Association in Chicago will be devoted to the national Advertising and Educational campaign.

The greater part of the afternoon session Tuesday, June 5th, will be devoted to this important activity on the part of the candy industry. George H. Williamson, chairman of the committee, will preside and will outline the committee's plans for the second year of the educational work. Several important announcements and changes in the program and plans will be announced.

The newly appointed advertising manager, C. J. Nadherny, will exhibit the new series of four color magazine advertisements, advertising materials and dealers' helps which have been in preparation for the past few weeks. Mr. Nadherny will also make important announcements regarding the plans and methods of distribution and handling of the advertising material.

C. S. Clark, Field Director, will outline the plans for the co-operation of the National Promotion Committee, the work the members of the field staff are undertaking and the efforts that are being made to co-operate with the retailers and dealers to aid them in increasing their candy sales and to better merchandise candy. Mr. Clark will outline plans for "Candy Week," beginning October 7th and ending on "Sweetest Day," Saturday, October 13th.

Digest of Current Technical Literature

The estimation of preservatives in foodstuffs—

H. Drake-Law, Food Manuf., 1, 21-2 (1927).

Mr. Drake-Law claims that present methods for determining Sulfur Dioxide in foodstuffs are unreliable and inaccurate. He has studied reduction with Zinc to H₂S, and determination as lead Sulfide; oxidation direct with Iodine; and oxidation followed by gravimetric determination as Barium Sulfate. His work was done on caramel, cane sugar, starches and dried fruits. New and specific methods are urged for official work. Because of conflicting state and federal laws regarding the presence of Sulfur Dioxide, it would be well if the OA & AC would develop a reliable method.

The preparation of milk powder by the spray process—

Anonymous, Ind. Chemist, 3, 494-7, 561-7 (1927). A general description for those not familiar with this process.

Evaporated milk, its chemistry and uses—

Frank E. Rice, J. Elisha Mitchell Sci. Soc., 43 (10-11), 1927. A short review.

Spice oils vs. Spices in food products—

F. W. Brown, Fruit Prod. Journ. and Am. Vinegar Ind., 7, No. 5, 14-5; 27 (1928).

The author gives ten salient reasons why essential oils should replace spices in food products. They are: 1. Greater uniformity of quality and flavoring value. 2. No color disturbances. 3. Less bulk in storage. 4. Less weight in shipping. 5. No danger of molding. 6. No loss by exposure in package while being stored. 7. No starch introduced into the mixture. 8. Ease of handling. 9. Less cost as compared to equivalent spice value. 10. Entire flavor available immediately. The article gives equivalent amounts of oils and spices.

Hints on the origin and prevention of humidity troubles in chocolate factory—

Food Manuf., 3, 229-30 (1928).

Crystalline Dextrose—

C. Copland. U. S. Patent 1,652,393, Dec. 13, 1927.

Imports and production of figs—

F. E. Croxton. American Food Journal, 22, 417-8 (1927). Statistical.

Prunes—

F. E. Croxton. American Food Journal, 22, 372-3 (1927).

Improvements in the processing of salted almonds—

W. V. Cruess. Fruit Prod. J. and Am. Vinegar Ind., 7, No. 5, 29 (1928).

Shelled almonds are dipped in boiling water for 1 to 2 minutes, the skin is removed, dry salt added; they are dried at 165-180° Fahr. to less than 1% water; the temperature of the oven is now raised to 400° F.

Pectin—

H. T. Leo. U. S. Patent 1,654,131, Dec. 27, 1927.

Describing a method of extracting pectin from citrus fruit rind by extraction with a hot weakly acid solution after treatment with alcohol.

Convention Program

of the 45th Annual Convention of the National Confectioners Convention

THE 45th annual convention of National Confectioners' Association which will be held in the Stevens Hotel, Chicago, week of June 4th, promises to be one of the most interesting conclaves in the history of the organization.

All the convention activities will be under one roof, the convention sessions in the north ball room and the exposition in the exhibition hall of the same hotel.

Monday, June 4th

Exposition opens at 1 o'clock p. m.

Meeting of supply firms who are interested in exhibiting to manufacturing confectioners.

Tuesday, June 5th

Report of the Advertising Committee, George H. Williamson, chairman. Outlining plans for the second year's work of the National Cooperative Advertising and Educational Campaign.

Wednesday, June 6th

Report of the Cost Accounting Committee, by John Roorda, Cracker Jack Co., chairman.

Address by E. B. Moran, manager of the Central Division, National Association of Credit Men, on "The Credit Plan." The N. C. A. Bulletin has this to say about Mr. Moran:

The Credit Committee has been working on this problem of exchanging collective ledger experience since the last convention and has recommended the adoption of a Standard Form of Credit Service available through the Credit Insurance Bureaus of the National Association of Credit Men, and the monthly publication of a Consolidated Report of Delinquent Accounts.

Many of our members have subscribed for this service. Those who are subscribers and have received Report No. 1 containing approximately 5,000 delinquent accounts were no doubt amazed at the extent to which credit is being extended to irresponsible firms and are convinced that this credit service is the most constructive plan that we have ever undertaken and will prove to be invaluable to the industry if generally adopted, as we hope it will be.

Mr. E. B. Moran will tell us all about this Special Credit Service for the Candy Industry and how it is functioning.

He will also give us some inside information on credit conditions as they affect the Candy Industry. Mr. Moran has had years of experience in the organization and development of the Interchange Bureaus of the National Association of Credit Men, and is a very forceful and interesting speaker.

Address by Joseph C. Colquitt, of Washington, D. C., prominent traffic attorney, on traffic conditions and problems with an able interpretation of trends in transportation. The report of the N. C. A. traffic committee will follow this address.

Wednesday, June 6th

Address on "The Value of Industrial Research" by Dr. H. E. Barnard, formerly Food Commissioner of Indiana and more recently managing director of the American Institute of Baking. Report of the Research and Educational Committee of the N. C. A. will be made by E. B. Hutchins, chairman.

Report of Committee on Depreciation and Obsolescence by Malcolm A. McDonnell, chairman. The department of Internal Revenue has requested all manufacturing industries to cooperate in establishing uniform rates of depreciation on machinery equipment, etc. Consequently, the N. C. A. committee has made an exhaustive study of the average life of confectioners' equipment as a basis for proper auditing and cost accounting.

Group meeting of bar goods manufacturers, George H. Williamson presiding.

Thursday, June 7th

"The Candy Survey," an address by R. L. Purdon, Department of Commerce.

"A Message from the West," delivered by Fred G. Taylor, Secretary of the Western Confectioners' Association.

Package Goods Manufacturers' Conference. Harry W. Taylor, presiding.

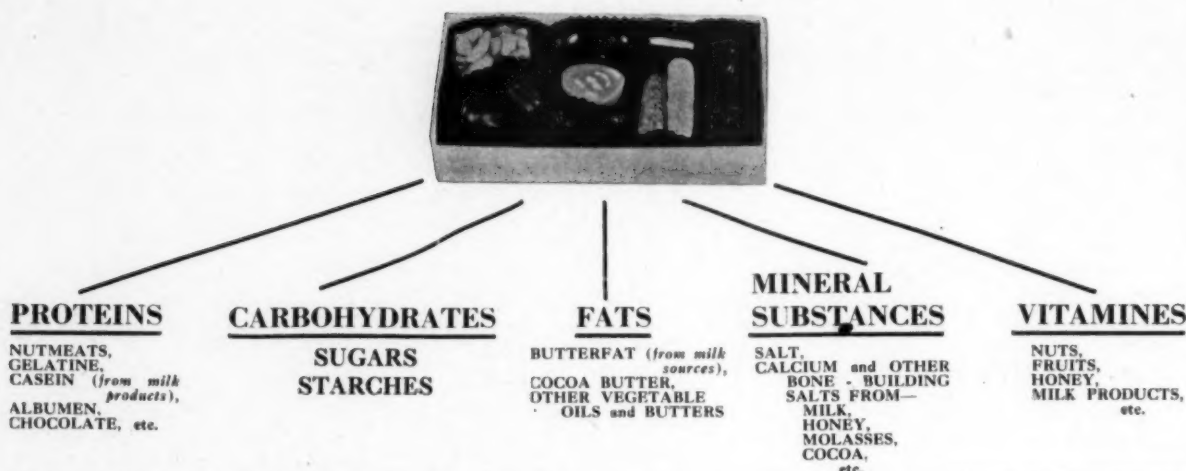
Friday, June 8th

Report of Resolutions Committee, L. C. Blunt, chairman.

Election of officers.

Entertainment Features

The entertainment features will include special forms of entertainment for the ladies; the golf tournament for the men; a theater party for everybody on Wednesday evening, and the dinner and dance on Thursday evening in the grand ballroom of the hotel.



CANDY—A Food or a Luxury?

The popular conception of a "diet list" is an arrangement of naturally repugnant foods which we have to "discipline" ourselves to take. Must this attitude of self-martyrdom preclude the use of good foods which are also agreeable? Just what is the nutritional status of candy?

The food value of candy is discussed in a practical and comprehensive fashion

BY WERNER W. DUECKER, PH. D.

Essex Fellow, Mellon Institute of Industrial Research, Pittsburgh, Pa.

ALTHOUGH the knowledge of human nutrition is still in its infancy, recent years have witnessed great advances in this subject, and important discoveries have been made with regard to the amounts and kinds of food and accessory food substances needed for proper growth and maintenance. The candymaker, although his product has hitherto been classified as a confection, is in reality manufacturing a food product and in view of these developments, he now has a direct and vital interest in the nutritional value of the ingredients he uses.

Our daily food consists essentially of proteins, carbohydrates, fats, mineral salts, and certain accessory food factors called vitamins. By proteins we mean such products as meat, egg whites, and gelatine, while carbohydrates are the sugars and the starches. The chief functions of food are, first, to yield energy;

second, to build tissue; and third, to regulate body processes. Of the constituents of the ordinary mixed diet of man, carbohydrates and fats are usually the most abundant and the most economical sources of energy. They are *not*, however, the chief constituents of which the active tissues of the body are composed. Muscle tissue, for instance, is almost devoid of carbohydrates and often contains very little fat. Muscle tissue is composed of the proteins.

The proteins are without doubt the most important of the four main classes of foods, proteins, fats, carbohydrates, and vitamins. The animal organism can apparently live without fats or carbohydrates, but it cannot live without proteins. This fact indicates the probability that the body can make fats and carbohydrates from protein, but it cannot make proteins from fats and carbohydrates.

A Candy Protein with a Mechanical Bent.

One of the proteins in which the confectioner is probably most interested, and for which he is constantly finding an increasing number of uses, is gelatine. Gelatine is especially rich in the amino acid lysine, which has been found necessary for the promotion of growth and the maintenance of health. And besides being of value for its high lysine content and the fact that it promotes growth in young children, gelatine also aids in neutralizing excess acids, assists digestion when used with milk, supplements the proteins of the grains and generally facilitates food assimilation because of its colloidal action.

The carbohydrates that the confectioner uses are the sugars and the starches. James A. Tobey, writing in the May, 1928, issue of *Hygeia*, published by the American Medical Association, says:

THE MANUFACTURING CONFECTIONER

"Sugar, properly employed, has many advantages as a nutritional commodity. In the first place, it is a quick source of energy. Cane or beet sugar, for instance, begins to burn in the human system in about five minutes after it has been consumed. The value of such an article in the diet of those who do heavy physical work is apparent, and experience has shown that athletes and manual laborers profit from the use of sugar. Children may be fed sugar in moderate amounts without harm. On account of the activity of the children, this form of carbohydrate is advantageous, and physicians and nutrition workers are today agreed that sugar in proper quantities is beneficial to growing children. In its ability to nourish, it replaces the fats, spares the proteins, prevents acidosis, and puts less strain on the digestive system. Sweets used in proper amounts will not harm the teeth when the general diet is well balanced and the customary oral hygiene habits are practiced."

Just How Digestible Are Candy Raw Materials?

Recently Doctors Hosoi, Alvarey and Mann of the Mayo Clinic contributed a paper to the *Archives of Internal Medicine* (vol. 41, page 112), entitled "Intestinal Absorption." They endeavored to determine the digestibility of various foods. In summarizing their work they pointed out that "these foods have been arranged as far as possible in the order of their digestibility, as judged by the percentage of moist residue" after digestion. Among those with the least residue are gelatine, cane sugar, and corn syrup.

These authors then give the following table to show the percentage of undigestible matter remaining after feeding the various substances.

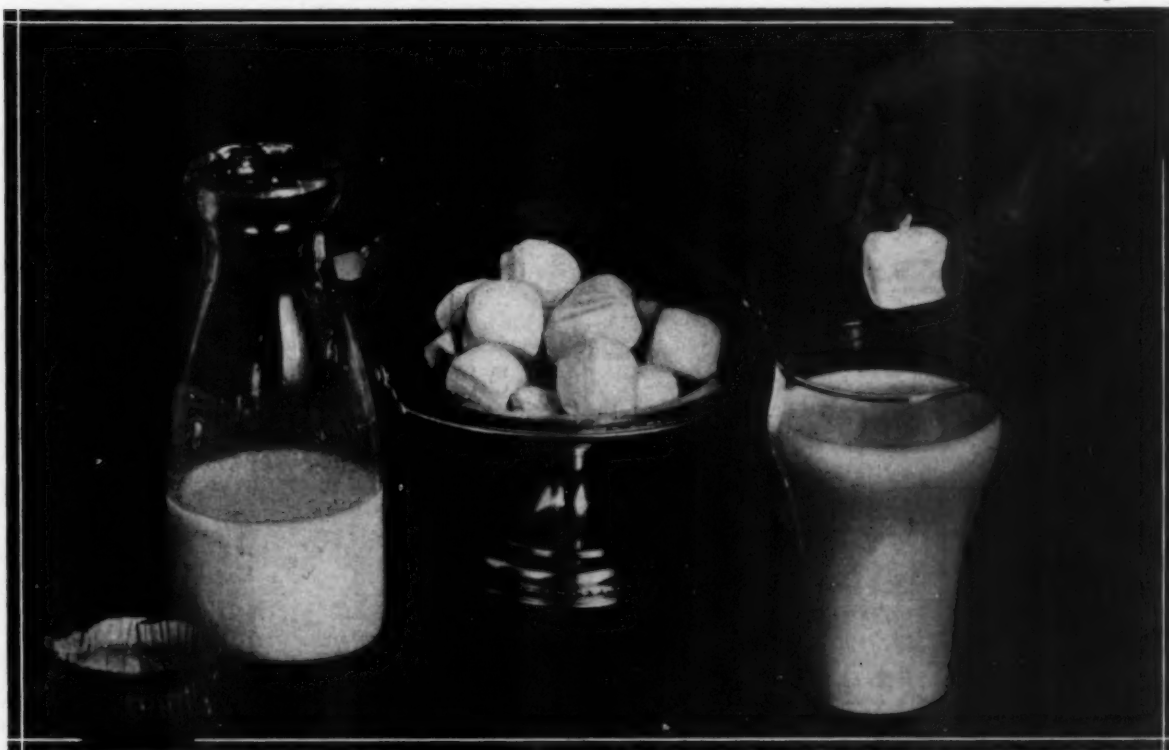
	Percent. of Moist Residue.	Percent. of Dry Residue.
Gelatine	4.7	3.4
Corn sugar, 33% soln.	10.5	1.7
Cane sugar, 50% soln.	11.0	3.2

Meat	16.6	12.5
Tomatoes	31.3	14.6
Bread	47.2	9.3
Egg albumen	56.5	85.9
Bananas	111.97	32.7

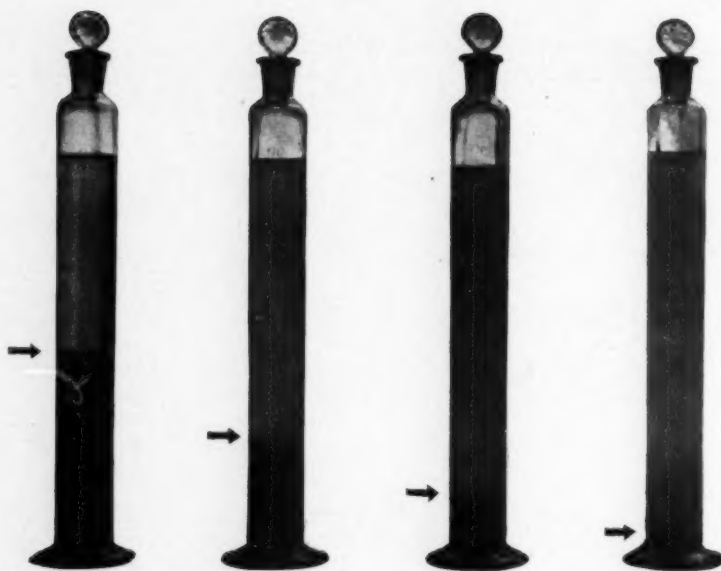
This report is interesting as it confirms the results of other research workers and shows clearly that such foods as gelatine, corn sugar (dextrose) and sucrose (cane sugar), when compared with other foods, are nearly 100 per cent assimilable by the human body!

Of what interest, one may ask, is all this to the candy manufacturer? The confectioner, since he is preparing a food product, is interested; first, in the fact that his product, when consisting of gelatine, sugar and corn syrup, is nearly 100 per cent digestible; and secondly, that he is supplying something for the energy requirements of the human body. From analogy, one may infer that certain other products which the confectioner uses are not entirely digestible. It is also evident from what has been said that his products cannot be classified as

(Continued on page 41)



Will marshmallows be the means of getting across the food value of candy? Dr. Duecker suggests marshmallows and milk as a valuable application of this confection to child-feeding



1% starch solutions cooled overnight: (1) Unmodified; (2) 30 fluidity; (3) 60 fluidity; (4) 90 fluidity. The difference between modified and unmodified starches is shown by the difference in the volume of the cell envelopes precipitated out of each type.

Shall We Use

Thick- or Thin-Boiling Starches in Our Gum and Jelly Work?

The Editor asked this question of Mr. Lowell O. Gill, Research Chemist of A. E. Staley Mfg. Company, and this is his reply:

GOOD evidence that the candy world has progressed can be obtained by giving an unsuspecting friend an old-time Gum Arabic gum drop. The look of surprise and lack of pleasure which will appear on his face when he bites through the crude rubber of which the clear, apparently tender piece seems to be made will be ample evidence that the modern way is best.

The function of starch in gum and jelly work is to "bind" water, and 20% or more can be so held without the piece appearing moist and without any danger of separation of the ingredients. The starch does this by absorption of the water upon the colloidal particles into which each cell breaks when it is cooked. Standard thick boiling

starch was first used to replace Gum Arabic but many difficulties were encountered. It adhered strongly to the sides of the kettle, burning into a crust and it caused tough and discolored candy. Confectioners soon found that the addition of weak acid or acid salt caused the batch to boil more freely and, for the most part, give better results in every way. The difficulty was that no two batches could be made the same. The confectioner was really making thin boiling starch from thick boiling starch by this treatment, but starch is quite sensitive to the action of acids and, at the high temperatures used, the action was very rapid. Therefore, a variation in the acidity of the batch, a variation in steam pressure or time of cooking and even a variation in the barometer caused a variation in the

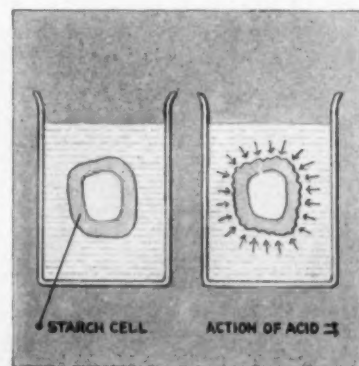
batch. It was impossible to standardize all of these things exactly so the reaction was uncontrolled and many batches were spoiled.

When starch manufacturers undertook to modify starch they did it differently, and from the first they were able to produce starches which gave better results than an unmodified starch, converted in the kettle.

Present day modification methods call for carload sized batches, low acidity, low temperature and long conversion time. This gives opportunity for accurate and effective control of the progress of the reaction and the possibility of stopping it instantly when it has gone far enough. Because it is made while the starch is being thoroughly stirred in a water suspension there can be no variation within any batch and the close control tends to make alike all batches of the same grade. The length of the conversion time determines the amount of conversion and any degree of thickness between ordinary unmodified starch and one so far converted that it has practically no body at all can be obtained merely by varying this time. If the temperature were raised sufficiently, corn syrup would be produced.

Determining the Fluidity.

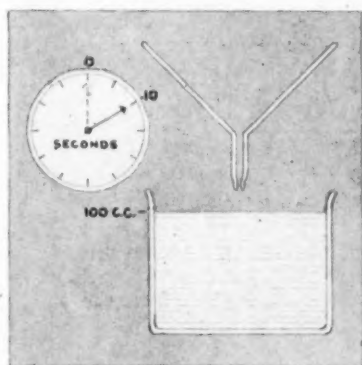
The degree of conversion is designated by the *fluidity* of the products. This is merely another way of telling how free flowing the product is when it is treated in a certain way and compared with a standard. The comparison is made by stirring the weighed sample with a set volume of exactly 1% caustic soda so-



The process of modifying starch consists in putting the cell envelopes in a condition which enables them to be more easily broken up by boiling water

Below: Standardizing the fluidity funnel. The time required for 100 c.c. of water to pass through the funnel orifice is taken as the standard interval

At right: The fluidity of the starch is numerically equivalent to the number of cubic centimeters of the prepared starch solution which will flow through the funnel orifice in the previously determined standard interval

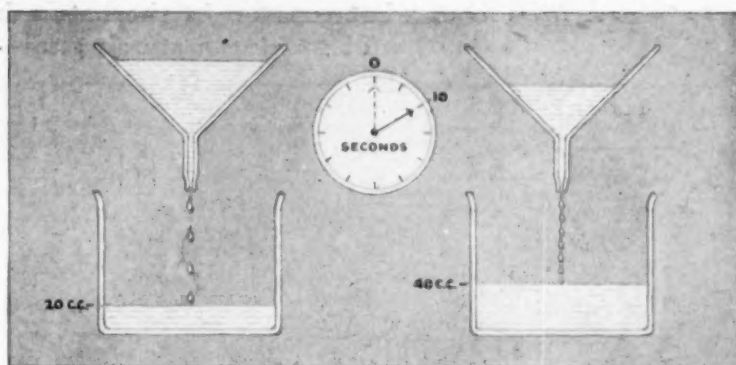


lution at a definite temperature. The alkali causes the starch to form a paste much as boiling with water does, but it has some advantages over boiling which make it better for this test. After the starch is pasted it is poured into a funnel with a hole of a specified size in the stem. The amount of starch, measured in cubic centimeters, which runs through the orifice in a specified time is the fluidity. The time allowed is that interval which is required for 100 cubic centimeters of water to flow through the orifice.

Unmodified starch has a fluidity of about 2 to 4 and other commercial grades are 20, 30, 40, etc., up to 90 fluidity. The higher the number, the thinner the starch will cook up when definite amounts of starch and water are used.

Not all of these starches are suitable for use by confectioners. The untreated starch, as we have seen, is too thick and the lower modifications are enough like it to have its failings. Then come some which are useful in gum work, about the middle of the fluidity range, and following these are one or two commercial products which cook up so thin that they will not set when cold and consequently, cannot be used.

A series of experiments in which the same formula and procedure are used throughout and only the fluidity of the starch is varied shows that the thicker starches give candy with a short break but which tends



Method of Determining Starch Fluidity

Standardizing Fluidity Funnel:

CUT off the tip of an ordinary soft glass funnel (4 inches in diameter at the top) about 2 inches below the junction of the tip and the cone. Heat carefully in Bunsen flame until the hole in the end of the tip contracts to about 1/16 inch diameter. Allow to cool, and fill funnel with 105 cc. of distilled water at 75° F., permitting it to flow into the tip and to drive out all air before closing upper opening of tip with a glass rod tipped with rubber. Place a 100 cc. graduated cylinder under the tip of the funnel and allow 100 cc. of water to run freely into it, carefully noting the exact time required for this volume to run through the funnel orifice. The number of seconds required should be marked on the funnel and in determining the fluidity of starches the prepared solution of starch is permitted to run through the funnel for exactly this number of seconds.

Determining the Fluidity:

THE sample of starch must be thoroughly dried in the open for one hour, or if a wet starch, for four hours. 4.5 grams of the dried sample is placed in a glass and mixed with 10 cc. of distilled water (the 4.5 grams is considered equal to 5 grams on a 10% moisture basis). To this mixture add 90 cc. of a 1% solution of caustic soda and stir gently for exactly 3 minutes. Place the glass in a water bath at a temperature of exactly 75° F. and allow it to stand for 30 minutes. At the end of that time remove from the bath and pour starch into the funnel. Be sure that no air bubbles remain in the funnel tip when test is run. The fluidity of the sample is numerically equal to the number of cc. of starch solution which run through the tip in the number of seconds determined in the standardization of the funnel—i. e., if 29 cc. of the solution pass through the funnel in the required time for 100 cc. of water, then the fluidity of the starch is reported as 29.

(Substantially the same method of testing is employed in the various starch refineries, except that standard tips may be purchased from the drug supply houses. These tips are possibly a trifle more accurate in results.—The Editor.)

to be tough and cloudy. As one progresses into the thinner boiling starches he produces clearer and more tender pieces, but they are likely to be stringy when broken and somewhat sticky when chewed. The very high modifications, give clear, soft, very stringy candy which is commercially worthless.

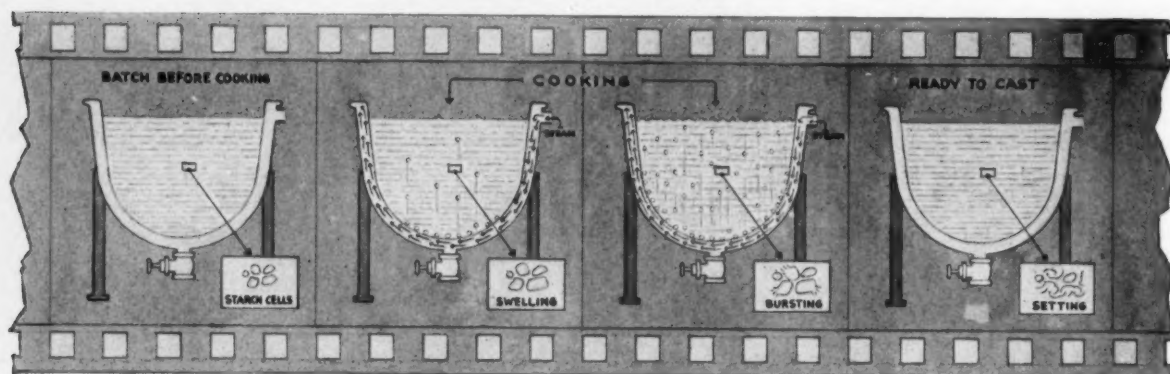
Care Needed in Selection.

It can be seen from this that the selection of exactly the right grade

of starch is very important. The gum maker wants transparency, tenderness and short break all in the same piece and some of these things are antagonistic so far as starch is concerned. As we have already seen, starches which contribute to clearness and tenderness tend to be stringy and those which give a short break tend toward cloudiness and toughness but, fortunately for confectioners who are particular, it has been discovered that starch can be

THICK OR THIN-BOILING STARCHES

A MOVIE of what goes on in the batch during the process of cooking a starch gum--



AS heat is applied the starch cells commence to swell, the largest first, and so on. As the cell envelopes reach their elastic limits, they burst and their contents are poured out. The colloidal particles of these cell contents bind large quantities of water and the envelopes interlace to form the supporting structure of the gelatinous mass much as lath reinforces plaster

specially treated so that one product combines all the desired qualities in itself. There are brands on the market which, in a good formula intelligently handled, will give a clear, short piece which will remain tender for a long time.

We have now seen something of how starch is modified, how it is tested and how it acts and it may be of interest to know what happens to the starch when it is modified and why the modified starch acts as it does. Starch occurs in corn as microscopic particles, called starch cells, and no matter what form it is sold in, pearl, powder, crystal or lump, it always takes the same form when it is stirred with water—separate starch cells. The larger forms are merely aggregates of these cells. The process of modification does not change the microscopic appearance of the starch cell in the least. The cells are composed of a fairly tough, insoluble outer covering or envelope and inner material in varying stages of polymerization. If starch is mixed with water and the suspension is heated the starch cells swell greatly, the larger cells swelling first, the next largest next, and so on. After the cell wall has reached its elastic limit, it bursts and the cell contents are poured out. It is true that some people refuse

to believe that starch cells burst even upon boiling, but some of the facts cannot be explained in any other way.

If the concentration is high enough the starch paste will form a jelly upon cooling and all of the water will be "bound" by the starch. If, however, the concentration is low, say 1%, instead of forming a jelly upon cooling, part of the starch will settle out and part of it will remain in suspension. A microscopic examination of the precipitate shows it to be largely composed of swollen cell envelopes. The difference between modified and unmodified starch is shown by the difference in the volume of cell envelopes deposited by the two types of starch.

Volume of Precipitate, a Measure of Fluidity.

The photograph shows four samples, the first of them unmodified and the other three modified in increasing degrees. It can easily be seen that the volume of precipitate varies in the opposite direction from the fluidity and is, in itself, a pretty good indication of the fluidity. Evidently the process of modifying consisted in putting the cell envelopes in a condition which made them more easily broken up by boil-

ing water.

The action of an acid under the conditions of starch treatment is called hydrolysis and, as would be expected, the hydrolysis is greater the longer the acid is in contact with the starch. Presumably, the hydrolysis extends to all parts of the cell but its action on the cell envelope is most noticeable. The function of the cell envelopes is to interlace throughout the jelly and to reinforce the fine structured, gelatinous mass of cell contents much as wood fibre reinforces plaster. As the number of cell envelopes decreases, the amount of reinforcement also decreases and, in a like manner, the rigidity of the paste. The reason, then, that unmodified starch gives a thick paste and modified starches give progressively thinner pastes as the fluidity increases is that increasing fluidity indicates an increasing ability of hot water to break down the cell structure.

Modification can be likened, then, to a sort of tendering of the starch cells. A medium modification of starch makes it fairly well suited for the confectioner, but additional treatment of a different kind must be resorted to if all of his requirements, clearness, tenderness and shortness, are to be satisfied with one product.

Ask Me!



1. *What makes jelly gel?*
2. *Name an important confectionery colloid which is produced in each of the following countries: China, Egypt, Japan?*
3. *What is the distinction between a "first run" liquor and a "first boiling" sugar as applied to the manufacture of refined sugar? What is the practical significance of this?*
4. *In what way does the preparation of thin-boiling starch resemble the manufacture of corn syrup?*
5. *Of what class of food material is muscular tissue chiefly composed?*
6. *What is the meaning of "fluidity" as applied to cooking starch?*
7. *Name 3 important sources of protein occurring in candy?*
8. *What form of candy is suggested by Dr. Duecker for use in connection with child feeding?*
9. *Why should crystallizing work be conducted in a separate room at some distance from mechanical activities?*
10. *How does corn syrup tend to prevent hard candy from crystallizing?*

Answers to April Questions

1. *What substance present in the human body has revolutionized the manufacture of "handroll" creams?*

Ans. The enzyme "invertase." (See article entitled "Rolled Centers Plus Invertase" in the April issue of the Manufacturing Confectioner.)

2. *What is a "colloid"?*

Ans. A gelatinous or jelly-like substance incapable of crystallization. (See "A Super Gets the 'Up-and-Up' on Colloids" in the current issue.)

3. *Why does moisture thicken chocolate?*

Ans. Moisture forms an emulsion with cocoa butter. This emulsion has a higher viscosity than pure cocoa butter, which consequently "thickens" the chocolate.

4. *What is the action of fruit pectin and invert sugar in a cream center?*

Ans. Fruit pectin acts as a protective colloid to prevent the grain- ing of sucrose. The levulose in invert sugar exercises a specific action to accomplish the same purpose.

5. *Why does a fruit cream cordial?*

Ans. The invert resulting from the break-down of the sugar by the fruit acid is more soluble than the sucrose which it replaces; consequently, syrup is formed from the solid phase.

6. *What raw material of the homemade department, stores best at warm temperatures?*

Ans. Honey.

7. *Why does the presence of egg albumen tend to prevent the grain- ing of cream centers?*

Ans. Because it acts as a protective colloid. (See "A Super Gets

the 'Up-and-Up' on Colloids" in the current issue.)

8. *Name two invert sugars of natural origin.*

Ans. Honey, and raisin syrup.

9. *What is meant by "syrup density"?*

Ans. The specific gravity of the syrup. The term is loosely used to designate the concentration of the sugars in the syrup phase of a fondant. (See "Rolled Centers Plus Invertase" in the April issue.)

10. *Why is invertase referred to as a "variable-control" catalyst?*

Ans. Because its rate of inversion can be controlled by varying the amount added and the temperature under which it is permitted to function. (See "Rolled Centers Plus Invertase" in the April issue.)



The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is gum and jelly work; next month it will be "samples" or variety assortments. Each sample represents a bona-fide purchase in the retail market, so that any one of these samples may be yours.

This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.

Gums and Jellies

The following samples examined by the M. C. Candy Clinic were purchased in high class retail shops in and about New York City, Boston and Chicago.

Sample W-7a

Jelly Gum Drops

Crystal: Good.
Colors: Good. Rose a trifle faded.
Flavors: Good, except lemon, which tasted a trifle off.

Texture: Very poor. Instead of center being a jelly, it was almost solid, causing gums to be gritty and to eat like a lump of sugar.

Sample W-7b

Hard or Druggist Gum Drops

Crystal: Blistered—almost all.
Colors: Good.
Flavors: Very good.
Texture: Very tough. Could hardly be eaten. Either too much glucose is being used, batch cooked too high or left in the hot room too long.

Sample W-7c

A. B. Gums

Crystal: Licorice and Rose were blistered but not badly. Balance of

flavors had a good fine-grained crystal.

Colors: Very good.
Flavors: All good except lemon, which tasted too bitter.
Texture: Very good.

Sample K-7

Pocket Package of A. B. Gums

Crystal: Dutch Crystal used.
Colors: Fair. Some too dark and some too bright.
Flavor: Tasted as though imitation flavors were used.

Texture: Poor. Mostly all tough.

Sample A-7

Asst. A. B. Gums

Crystal: Good.
Color: Very good.
Flavors: Very good except that Licorice seemed to be burnt and had a bad after-taste.

Texture: A little too soft, more like a piece of jelly and a trifle starchy.

Sample HS-7

Asst. Spiced Strings

Crystal: Fair. About 30% were flaked and some of the crystal had come off in spots.

Color: Good.
Flavor: Fair; a little too much spice used.

Texture: Very tough; not a good string at all.

Sample H-7a

Asst. A. B. Gums

Crystal: Good.
Color: Good.
Flavor: Fair, but not enough used.
Texture: Very good.

Sample H-7b

Asst. Spiced Strings

Crystal: Good, but very coarse.
Color: Fair; green very bright.
Flavor: Good.
Texture: Fair; Orange resembled chewing gum.

Summary of the Clinic's Findings

IF it weren't for the fact that we know better, our examination of the month's "gather" would inevitably lead us to conclude that the manufacture of good gums is rapidly becoming a lost art. Out of 8 samples corralled for testing, 6 were noticeably subnormal in consistency, being either too tough or too pasty; in 3, the crystal was either flaked or blistered; and 7 mer-

ited varying degrees of criticism on the score of defective colorings, flavors or both. Not a very good showing for one of the oldest forms of candy, to be sure. All but one of the samples were dispensed in bulk. Very few houses in the east appear to be putting out 1 lb. or ½ lb. packages of jelly goods or gumdrops. Properly made, there ought to be a good sale for this class of candy in unit packages.

THE M. C. LETTERBOX

{ A practical service department
conducted under the direction
of the Candy Clinic :: :: :: }

Dipping Marshmallows

Inquiry—Please send us a good formula for dipping marshmallows. We have a beater that drains out at the bottom, so we would have to run the batch in starch trays with papers on the trays. Would like the formula best suited to this condition.

Reply—Dipping Marshmallow:

50 lbs. Corn Syrup
50 lbs. Invert Sugar
2½ to 2¾ lbs. Gelatine soaked in
2 gals. hot water.
6 ozs. Glycerine

This formula will give you a good light marshmallow which will not dry up or get tough after dipping. Put all the glucose in a steamkettle, add one-half the above quantity of invert sugar; melt, *but do not boil*. Put the balance of the invert sugar in the beater and add to it the glucose and invert sugar that has just been heated. Beat a few minutes before adding the gelatine solution. Add glycerine and flavor when the batch is half beaten.

If you have a good, strong gelatine, 2½ lbs. will do; otherwise, use 2¾ lbs. In the hot months you may have to add 2 or 3 ozs. more. Have your starch dry and clean, but not too hot. If you can keep your starch around 110°-115° you will get good results. Never add water after the batch is beaten; this will spoil the best marshmallow made and give you all kinds of trouble after the goods are dipped.

Molding Chocolate

Inquiry—On page 25 of the December issue you speak of using about 15% of glucose or corn syrup in chocolate coating where it is used in moulding animals or egg shells. We tried this, but found that the chocolate got very thick and very difficult to use—acting as if water had been placed in the chocolate. We would appreciate hearing from you regarding this. The chocolate was melted from ten pound cakes and the glucose was added after it was melted.

Reply—Adding glucose to chocolate must be done in the melanger

when the chocolate is made. When this chocolate is used for moulding it will be a paste and not a liquid. If you do not manufacture your own coatings, your coating house will prepare this for you.

For hollow work we suggest that you use about 5% glucose. For solid work (such as chocolate bars, tablets, fancy shapes, flat rabbits, chicks, etc.) use from 10 to 15% glucose. This chocolate will be of a thick consistency, but you will be able to use it faster than a liquid chocolate made without glucose.

Goods made from this chocolate will dry quicker and with a higher gloss. A little time spent in experimenting with different percentages of glucose should save you quite a bit of money.

On Gum Work

Inquiry—Please advise us the proper way to refine gum and prevent spotting.

*Reply—*You will need to have a jacketed kettle or tank made to hold the amount of gum which you require for two days' use. Provide this kettle or tank with a metal cover which does not fit too tight. Gum and water are put into the tank and enough steam or hot water turned on to get water and gum hot. Do not permit it to boil. It will take at least 24 hours to melt the gum. All waste matter will come to the top. Skim this off, and put it in the next melt. Draw gum off the bottom and strain through cheesecloth or a very fine mesh sieve. If you are using gum sorts and fine sand, sieve the gum in the dry state before putting it into the tank with the water. The fine siftings may next be melted and strained and then added to the tank. The fines are only a small amount of the total and will save time when you come to draw melted gum from the tank. Use 1 quart of water to every pound of gum for melting.

If your gum is melted slowly and cleaned in this manner, you will have no trouble with spotting.

* * *

Inquiry—Will you please be kind

enough to tell me the best method of making hard candy to prevent it from becoming sugary and to prevent the flavor from boiling away? Can you suggest any good book on the general subject that might be of interest and help?

*Reply—*If you are using gas or coal to cook with, that is, open fire cooking, we suggest that you follow carefully these instructions:

To every 10 lbs. sugar, use one level teaspoonful of cream of tartar and two quarts water. Put sugar and water in kettle; when it boils add the cream of tartar; cook to 335° and pour on slab. When the goods are finished, put in tin cans with air-tight covers. Never put flavors or colors in your batch until you pour it on the slab, or if you are going to pull your batch, put the flavor in while pulling. Use oil flavors, not extracts or emulsions. Use paste colors, not liquid or powdered.

In case you are using a vacuum cooker, make your hard candy as follows:

Melt sugar and water, use 4 ozs. of cream of tartar to every 100 lbs. of sugar, and 5 lbs. of corn syrup. Cook batch in vacuum to 280°, turn off steam, start vacuum pump and pull at least 28 lbs. of vacuum for eight minutes (summer); ten minutes during winter months.

There are any number of books containing candy formulae, but none that I know of gives instructions. Experience is your best teacher.

Chocolate Brown Color

Inquiry—Please tell us how to make a dry chocolate brown color from certified basic colors.

*Reply—*For a chocolate brown, use 53 parts Orange I, 14 parts Amaranth, 33 parts Sodium Indigo DiSulphonate.

This will give a good deep brown. Substituting Tartrazine for Orange I will make a light brown, as follows: 65 parts Tartrazine, 22 parts Amaranth, 13 parts Sodium Indigo DiSulphonate.

What Can We Do About the Summer Sales Slump?

BY FRANK MULFORD

ASK a dozen candy manufacturers which season they dread most and at least eleven of them will tell you, "Summer." Ask them why and they will offer two reasons. One is poor sales. And the other is excessive overhead. With the former an existing fact, the latter condition inevitably follows, since in any business there are certain fixed charges which go on regardless of sales.

Recently I asked 20 manufacturers to tell me how their sales run over a twelve months period. The object was simply to determine about how sales distribute themselves with a view to spotlighting the months when there seems to be a let-down. Averaging the figures which these manufacturers gave, the results are as follows:

January	4%	July	4%
February	6%	August	6%
March ..	8%	September ..	12%
April	7%	October	14%
May	6%	November ..	15%
June	5%	December ..	13%

It came as something of a surprise to learn that these manufacturers do almost twice as much business in the final half of the year as in the first six months. That sales for June, July and August should be the smallest for any three months period was not so startling, for the hot weather slump appears to be a well-anchored tradition in the candy industry.

What the figures listed above, together with the comments of various manufacturing confectioners, seem to indicate is that few companies in this field have ever made a definite and sustained effort to control sales. That somewhat hasty generalization should not be taken as belittling the advertising and sales promotion work of half a dozen leaders. It does, however, apply to the rank and file who accept what comes without making any real planned effort to create business. They are the ones who need,

before any others, to look into this matter of gaining and maintaining control over their sales. Unfortunately, they are the ones who will interest themselves last in the subject, and as a consequence their ratio of expense to sales will constantly run higher than it should.

Looking the summer sales slump squarely in the face, one finds too little readiness on the part of many manufacturers to question its necessity. They do not ask, "Is this let-down avoidable?" On the contrary, they assume pacifically that it must be endured. Why not examine into the case before passing judgment? Other manufacturers with seasonal slumps have found ways of counteracting their inroads. Even in the field of candy some manufacturers have learned that summer need not mean going to sleep until the newspapers start talking football. Bunte Brothers in Chicago, for example, have stepped up summer sales of their Diana Stuft line remarkably in the last three years. Sales of this line last summer were eight times those of the summer of 1924.

Do people stop buying candy as soon as Mother's Day has passed into the limbo of forgotten events? Do people stop eating candy simply because the thermometer tells them it is comfortable to start living outdoors? There can be little argument about one point. People's tastes do undergo a change in the summer. They lose some of their hunger for rich, heavy candies that generate heat and therefore make them uncomfortable. They dislike handling candies that are messy and sticky. Granted, but go to a ball game, picnic or outing; drop in on an August afternoon's bridge party. You'll find candy there, in spite of the fact that too many candy manufacturers have quit trying to sell it in volume.

The first step in the direction of controlling the summer slump would logically seem to be studying the situation with a view to picking out the kind of merchandise that can be pushed with reasonable chances of

success. Simply deciding to advertise and to high pressure the items that are leaders during the big months is not enough. What is needed is some intelligent investigation to show what consumers want to eat in the summer. That the desire for sweets exists when the weather is warm, everyone knows. That it differs from the cool weather appetite ought to be as generally recognized.

So wide is the scope of advertising effort that no definite chart of procedure to follow could be laid down here. As a matter of fact every advertising plan ought to be tailor-made in order to fit the product, the peculiarities of the markets aimed at and the sales plan. The *Advertiser* has commented principally in the past on newspaper and magazine advertising. Perhaps in talking about summer selling it would be a serious omission not to mention outdoor and car card advertising, since people are spending much of their time outdoors and traveling during the summer. That these mediums reach great masses of consumers is, of course, obvious. It is also a fact that they reach them at a relatively low circulation cost. Usually color in these mediums costs little more than black and white. The advertiser gains in either case a certain size dominance and high attention value. Both the outdoor poster and the car card are highly flexible. They can be bought to cover specific buying areas without paying for additional coverage where it is not wanted. Both mediums offer the advertiser the opportunity to use a picture, color and a few words of copy; in short, they mean a quick way of making an impression. And it is worth remembering that from 80 to 90 per cent of people buy on impression rather than on a reason why basis.

Most general publicity advertising represents sales effort. But unless that advertising is sold by salesmen just as seriously as goods are sold, it represents incomplete and hence

THE MANUFACTURING CONFECTIONER

inefficient sales effort. The manufacturer who wants to see his dollars buying results will certainly see to it that his salesmen are equipped with reproductions of his advertising and complete data concerning where, when and how much of it is to appear. His salesmen will be instructed to talk advertising as much as they talk the product being advertised. Those facts are rather generally known and reckoned with by experienced advertisers, but they are worth stressing here for the reason that the average salesman is a very human individual. As such it is difficult for him to avoid letting up in effort during the summer. If he accepts the silly idea that a falling off in sales is inevitable, it is bound to be a difficult job to convince him to the contrary. For that reason bonus plans for outstanding sales performances and prize contests should recommend themselves to manufacturers.

One other suggestion relating to controlling sales may be worth while, although it relates to summer selling no more than to selling during the remaining months of the year. It concerns teaching the salesman to concentrate on accounts that can buy in volume sufficient to yield

a decent net profit. Many sales managers have been as blind as their men in considering this detail. If a manufacturer will take the trouble to analyze his sales, he will almost certainly find that he gets from 60 to 80 per cent of his volume from about 25 per cent of his accounts. He will find that 25 per cent of the retailers in any market he chooses to study are buying from 60 to 80 per cent of the merchandise bought. Furthermore, he will learn that the poorest 20 per cent of the dealers do something less than 10 per cent of the total business in that particular town, territory or state.

The matter, then, of selecting prospects who are worth selling assumes considerable importance. It becomes quite apparent that salesmen must be taught to spend their time and effort where the results will be sufficient to justify that time and effort. It will actually cost far less to skip the marginal accounts that can't buy in volume sufficient to show a profit and cover them with direct mail advertising. The simple recorded fact is that notable results have been obtained by manufacturers who left the selling problem among small, relatively unimportant dealers entirely to mail promotion.

Now no one is going to advance the claim that the manufacturing confectioner will find it either simple or easy to step up his summer sales. If selling candy when the thermometer begins to soar were easy, then there would be no such menace as a summer slump. At the same time no one will argue against the value of combatting the tendency of overhead costs to rise during the summer months as compared with the remaining months of the year. Idle machinery costs money. Rent goes on regardless of sales. Letting skilled employees wander off to other fields proves expensive, especially when fall rolls around and it is time to start up production again. The logical way to keep these expenses in their place is level up the sagging sales curve of June, July and August. Canada Dry and Coca Cola are no longer seasonal items. They sell the year 'round. Other products have overcome the seasonal slump just as effectively—not by sitting back and accepting conditions long regarded as unavoidable, but by getting busy and trying to change those conditions. Summer as a selling season offers a challenge to the candy industry that more than one manufacturer is ignoring to his loss.

Candy—A Food or a Luxury?

(Continued from page 33)

complete foods, and although it may not be his aim to manufacture a complete food, it will nevertheless be to his interest to add to product only such substances as possess recognized food value.

For example, it is at times necessary for the confectioner to add a protective colloid to his product. Such a colloid is demanded in the production of marshmallows and jellies, and sometimes in other candies, to prevent graining. The confectioner is fortunate in having available for this purpose the colloid gelatine, which is a protein and entirely digestible. It is the one colloid whose food value has been definitely recognized and which is every day finding new advocates. Gelatine may be used not only in marshmallow and nougat, but in creams and cream pastes, kisses,

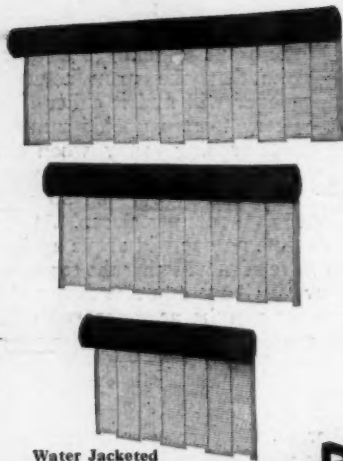
taffies, fruit jellies, icings, gum drops, fudge and other candies. Thus by adding gelatine to his batch for purely mechanical purposes the manufacturer has unwittingly enhanced the food value of his candies. The corn syrup and sugar satisfy some of the energy requirements of man and the gelatine supplies protein, for which no carbohydrate can substitute.

Marshmallows and Milk.

Ordinarily one would suppose that the quantity of gelatine used in candy would be so small as to have no real food value, yet marshmallows contain 2.5 per cent or more of gelatine—about twice as much as is found in the average gelatine desert or modified milk formula. They could therefore be used as a

candy food by the mother interested in the nutrition of her child. Here she has available a confection which supplies the energy requirements of the child and at the same time aids in muscle building.

The value of gelatinated milk in infant feeding has been demonstrated by many medical specialists. Milk to which gelatine has been added (one teaspoonful per quart) possesses a pleasing and novel flavor. Still further novelty (as regards appetizing characteristics) can be imparted to milk by the addition of marshmallows, and since gelatine undoubtedly renders easier the assimilation of the nutrients of milk, there is thus apparent in this unusual application of marshmallows, a demonstration of the valuable colloid chemical utility of gelatine in confectionery.



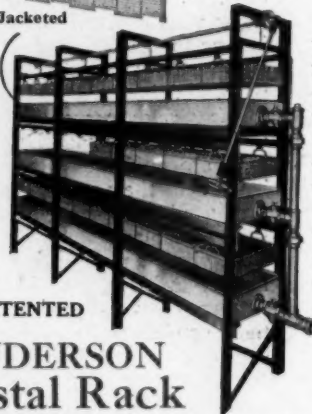
GREER Wire Belt

Greer Wire Belt is made in our own plant out of the very best wire. Standard belts in 16-in., 24-in., and 32-in. widths, fit any Coater or Enrober.

Any length of belt furnished as requested.

Wire belts are expensive. Why not buy the best?

Water Jacketed



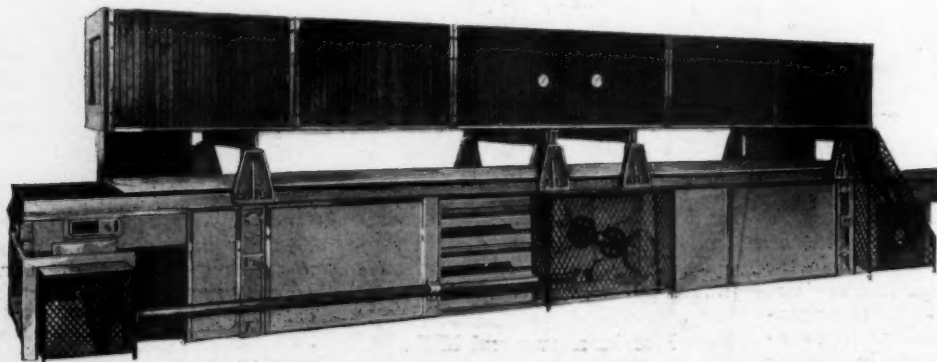
PATENTED

HENDERSON Crystal Rack

The Henderson Crystal Rack is the solution to the Crystallizing problem.

Produces 600 pounds of high grade goods per batch. Two batches per day.

Most compact, sanitary, economical, and labor saving method of making crystallized work.



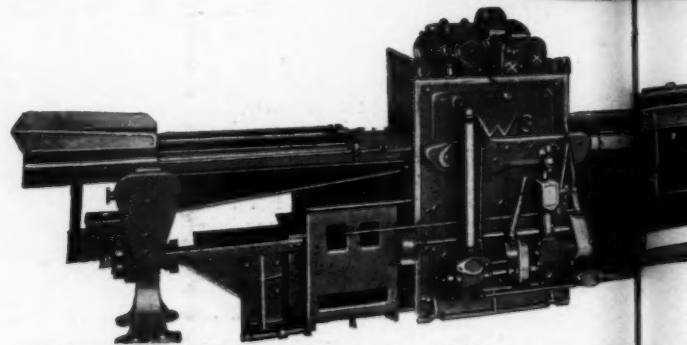
PATENTED

GREER Chocolate Cooling Machine

The Greer Chocolate Cooling Machine is recognized as the best and most modern means of cooling any solid moulded chocolate. The standard machine has a capacity of 2500 pounds per hour and yet occupies a space only 5½ feet x 28 feet.

Moulds of any size can be used in this machine. Warming tunnels are supplied to warm and return empty moulds to moulding room.

For
Bars and
Ten Pound
Cakes



GREER Automatic Plaque Trier

Where floor space is at a premium the Greer Automatic machine is the ideal means of overcoming this. Greer machine and are automatically transferred to a cooling and Cooling machine operate continuously no in ing machine is only 24 feet long yet is equivalent



PATENTED

The Greer Cooling

The Greer Cooling machine is the ideal means of overcoming this. Greer machine and are automatically transferred to a cooling and Cooling machine operate continuously no in ing machine is only 24 feet long yet is equivalent



GREER Quilting

The surprising this is its cooling capacity is du efficient method of circul the water. It uses water are obtainable only Sla

J. W. OR

Manufacturers of Greer's

119-137 Winds

GREER

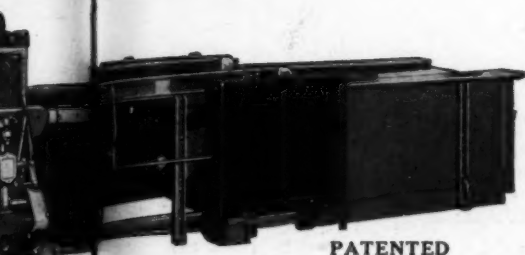
Patented Machinery
that Pays Dividends

GREER Perfected Chocolate Melting Kettle

The Greer Perfected Melting Kettles are the latest, most sanitary and efficient type of Melter. The use of Greer Kettles insures a uniform coating.

Outside surface is polished. No paint to crack off. Removable bearings throughout.

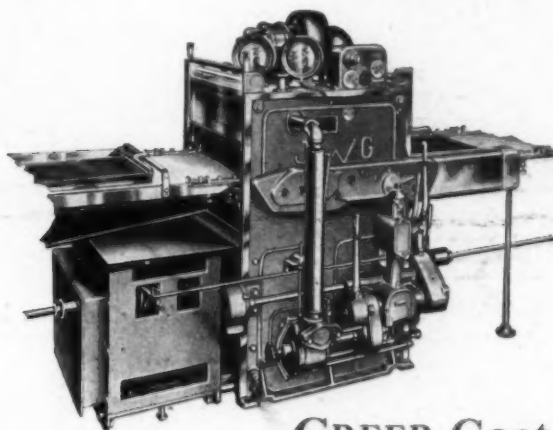
Made in 150, 300, 500, 1000 and 2000 pound sizes.



PATENTED

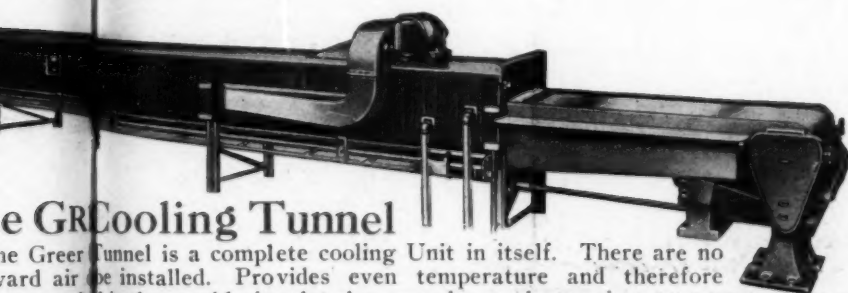
Greer Cooling Machine

The Greer Plaque Transfer Cooling Machine. Goods are fed thru Coating Machine. The Coating Machine is no intermittent motion. Cooling is equivalent tunnel 90 ft. long.



GREER Coater

The Greer Coater produces a remarkable amount of coated goods, and yet maintains the highest of quality. Simplicity has been achieved at last in a coating machine. In operation it is practically noiseless—a noiseless type of blower and drive being used. Variable Speed Transmission—NOT STEP GEARS—provides any desired speed.



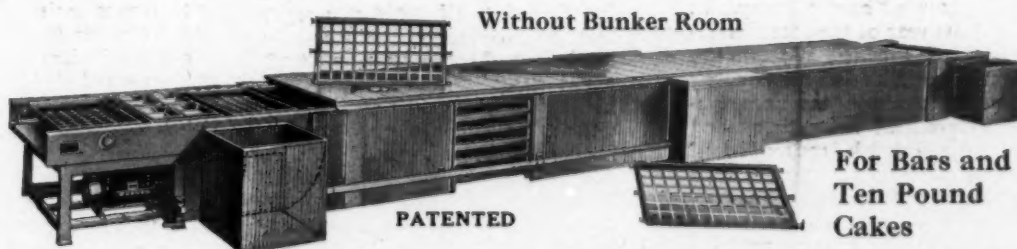
Greer Cooling Tunnel

The Greer Tunnel is a complete cooling Unit in itself. There are no ward air to be installed. Provides even temperature and therefore uniform results. Is thoroughly insulated so can be used even in a warm room. Patented conveying belt insures much longer life for belts. Can be connected to Coater or Enrober.



Greer Candy Slab

Surprising in this Candy Cooling Slab cooling capacity due to the unusually method of circulating and draining water. It uses water. These features are obtainable only in Slab.



PATENTED

GREER Chocolate Cooling Machine

This machine is the same as that illustrated on opposite page except for Bunker Room. With this type cold air is supplied from coils located in some other part of the plant.

W. GREER COMPANY

Manufacturers of Greer Machinery That Pays Dividends

Windsor, CAMBRIDGE, MASS.



The First N. C. A. Convention in 1876. Oldtimer, how many of these men can you remember?

*Adapted to quantity Production and given
a new lease of life under scientific control*

The Returning Homemade

Brings us to the dawn of a new era in the history of American candy

(Part IV; Forty Centuries of Sugar and Candy)

BY ORVILLE KNEEN

IN 1865 Henry Weatherley, an English confectioner, issued his Philadelphia edition of a "Treatise on the Art of Boiling Sugar." He announced: "Hitherto there has been no book published of any practical utility upon this important branch of confectionery. . . . Until the year of the first Exhibition (1851) boiled sweets were almost exclusively an English manufacture, but the introduction therein of the author's and other English confectioners' goods, and also the machines, led to their manufacture by other nations, the German confectioners in particular, and, as regards variety and skill, they are not likely to be surpassed. . . ." Here was a challenge destined to come ringing down to us through the decades. Weatherley goes on:

Following is the text of an advertisement which appeared in the New York Gazette on August 17, 1730:

"PUBLIC NOTICE is hereby given that **NICHOLAS BARARD** of the City of New York, has erected a Refining House for Refining all sorts of Sugar and Sugar-Candy, and has procured from Europe an experienced artist in that Mystery. At which Refining House all Persons in City and Country may be supplied by Whole-sale and Retail with both double and single Refined Loaf-Sugar, as also Powder and Shop-Sugars, and Sugar-Candy, at Reasonable Rates."

Two hundred years later finds Science banishing the last vestiges of "mystery" from the candy industry.

"The author, on visiting Paris in 1848, found only one description of common boiled sweets, and this was made and sold in the open streets, the sugar being boiled in a drop pan over a charcoal stove on a stall. After pulling it white, it was cut and sold while warm, in lumps at one or two sous each. There are now some other varieties sold in the shops, which are nearly all termed 'Caramels.' It is beyond question that the English people prefer boiled sugars, as the simplest and most genuine sweets, and whether they consist of the 'Loggets' or 'Cushies' of the eastern part of the Kingdom; the 'Tom Trot' or 'Butter Scotch, of the north; the 'Humbugs' or 'Lollies' of the west, they each have their votaries, perhaps the far-famed 'Toffee' taking the lead—for we find it a great favorite wherever

THE MANUFACTURING CONFECTIONER

introduced."

Mr. Weatherley took decided issue with previous authors who had said, "To prevent graining, put a little of any sort of acid, when it is at the crack, but remember that too much acid will also grain it." He remarked that such had never happened in his twenty years of acquaintance with sugar. Also, possibly because early sugars were of uncertain quality, he was wedded to the use of cane sugar.

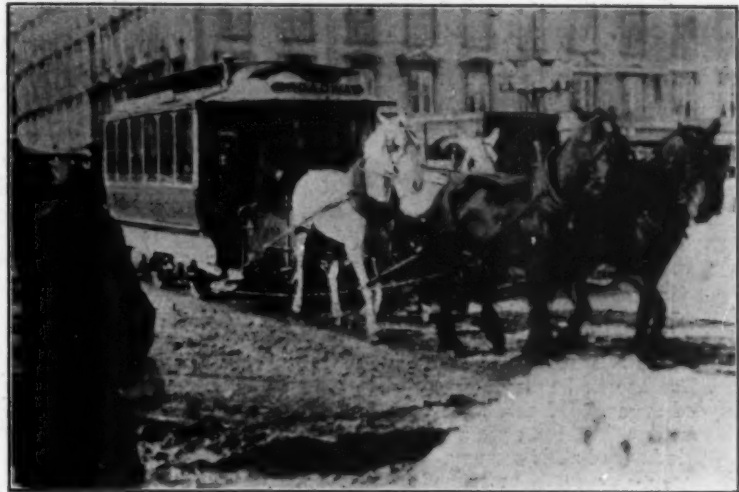
"All artificial (?) sugars, if they may be so termed, including beet-root sugar, made extensively in France, are quite useless to the workman; they possess neither strength nor richness, and, if mixed with cane sugars, they annoy him by puffing and burning in the pan." He states that sugars which are sticky in the hand (as was the early refined product) "are weak and will not boil well." Some of these sugars he found useful for cheap goods and sugar sticks. "A great many of these sugars smell very badly and require to be tested, or during the evaporation in boiling they will be extremely disagreeable. . . .

Dutch refines . . . are of very inferior quality and badly made in every respect." Possibly he was somewhat prejudiced in favor of his country's own refineries, then at the height of prosperity.

One thing, however, the confectioner of that day was saved. "The low prices at which refined sugars have been sold for some time past does away with the necessity of clarifying raw sugars." If necessary to clarify, he advised the use of whites of eggs, charcoal or bullocks' blood, and water, finally passing the syrup through a jelly bag. But he still had to make his colorings, and warned his compatriots against the use of "crome" for yellow. There remained much for the delving chemist to do before the industry could have the simple and harmless extracts and certified colors of this day for flavoring and coloring operations.

Hand Work vs. Machines

Weatherley reflects the skepticism of the times toward machine made candy, an attitude still greatly in evidence in Great Britain today. "There are certain latent properties in boiled sugars (when pulled, for instance) which are only brought out when made by hand, and by a clever workman." Such goods as "Rock" and sticks, striped and



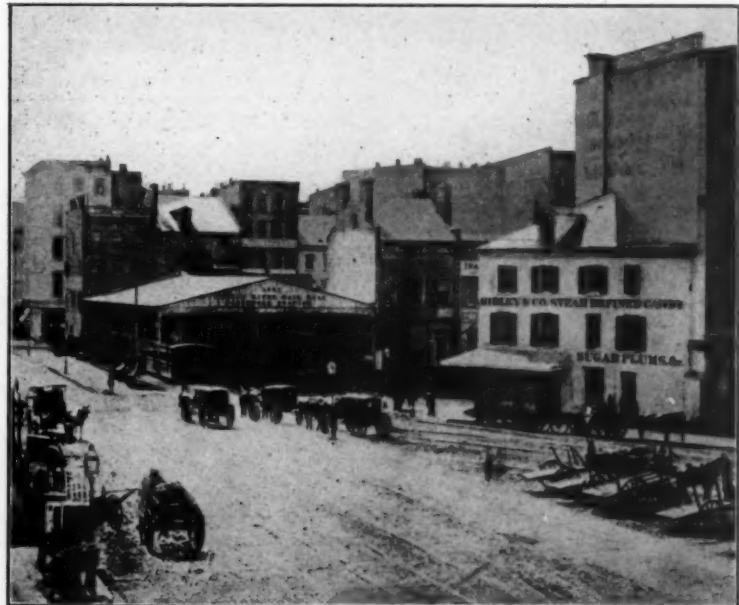
The confectionery manufacturer of the late 90s probably cursed the traffic congestion of his day with equal vehemence

—Photo by Ewing Galloway, N. Y.

plain, he mentions in this connection. Weatherley knew all the methods for "cutting" boiled syrups. He cites "Lemon Barley Sugar" as one of the oldest candies made, likewise lemon acid drops. "Tringham's," he notes, "used to be a very great attraction thirty years ago, to see the barley sugar made in the shop." He gives directions for making it, and adds: "There is also a machine

to pass this through which saves the trouble of cutting and twisting it."

Honey, pineapple and Montpellier (horehound) drops were common in his day. Cough candy was made of sugar, cream of tartar, acid, aniseed and peppermint, pulled and twisted. Horehound candy, coconut, "eggs and bacon," Everton and other toffees and butterscotch found high favor. Medals, molded shapes, imi-



The Ridley plant opposite the old New York Central Station, West Broadway and Chambers St., New York City—1868. "Steam refined" candy was still more or less of a novelty in those days as one might judge from the legend proudly displayed on the factory

—Keystone Photo

THE RETURNING HOMEMADE

tation plum puddings and Indian corn; ginger, rose and other such sweets filled the shelves, not to say the stomachs of young and old. Although Weatherley mentions ball heaters, his evident distrust of "quantity production" may point to one reason why English confectioners were later outstripped by our own candy men.

"We have got through work with more comfort and greater celerity," he writes, "with twenty pound boils, than larger ones, whatever quantity of goods have been required . . . while there is greater risk, there is no advantage in having very large boils of sugar." If this were true for that day, it did not remain true of the industry in this country, with its present-day boils in some instances of one and two tons at a time! The story of the wonderful accomplishments of modern candy machinery is worthy of a book in itself.

As the years went on, the varieties of sweets increased enormously. Against the twenty-five to fifty kinds of early days, many plants make hundreds today—perhaps more than they should. In the 70's and 80's, apprentices were not paid, and experienced men received \$9 to \$12 weekly, as compared to \$40 or more now. The old Spanish proverb "*No hay dulzura sin sudor*" ("No sweetness without sweat") aptly applies to the candy business. In 1850 the entire wages of the 383 plants amounted to only \$458,904. In 1925 1,928 factories paid out just 120 times as much, over 55 million dollars. What a non-fillable hole there is in the world's sweet tooth!

What Does the Future Hold?

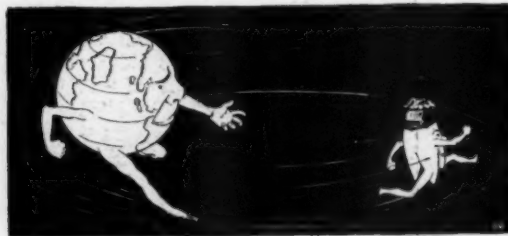
With Uncle Sam's hard candies gradually displacing softer sweets in distant lands, there is a hint of many new outlets to absorb the increasing output of American candy factories. At home we see the signs of a returning demand for the old-fashioned "home-mades" of yesterday. A historic cycle is drawing to a close. As with architecture, so with candy. The studied artistry and pretenses of the "elegant eighties" have gone, it is hoped, never to return. The simple dignity and beauty of the Colonial thumb-latch has reached new heights of public favor. Possessing the same individuality and charm as its 1700 model, yet it is no longer laboriously turned out by hand but fashioned by machines which reproduce with startling fidelity the hand-wrought workmanship of man. The other day we heard its candy counterpart referred to as the "imitation home-made." It was an imitation, to be sure, but, nevertheless, this commercialized product of a big candy factory embodied all that was simple, individual and rich in the kind grandmother used to make. Perhaps this designation must stand, but somehow it fails to express the full and beautiful significance of industry's newest victory over candy-making in the home.

The part which the chemist and the machine designer and builder have played in the romance of candy making has been too extensive for consideration here. But for those candy makers who pretend to be pessimistic as to the future, it is

worth recalling that while today we in America eat our average weight in sugar every year, the total annual consumption of candy has so far not exceeded fourteen pounds per capita. Many people do not eat anywhere near their share; large numbers eat scarcely any manufactured sweets.

It has been suggested that makers of ice cream, soft drinks and similar sweet-tasting compounds, use a great deal of other materials with only a small amount of sugar. This makes it possible for the consumer to absorb large quantities, which the manufacturer cheerfully makes. It is safe to say that candy men can greatly extend the consumption of their products by similar methods. From the earliest times the buyer of sweets has not required 100 per cent sugar, for it is far too concentrated to be eaten in quantity. The less rich they are, the more candies one can eat, a fact doubtless known to all confectioners if not always practiced.

Perhaps the use of more nearly automatic machines will further reduce costs and likewise increase consumption. The taste for sweets, steadily increasing through the ages, is hardly likely to reach the saturation point in our time. If that calamity should ever occur, there are hundreds of millions in other lands who are unacquainted with our multitudinous kinds of boiled candies and who eat little sugar in any form. The industry has every reason to be proud of its history and optimistic of its future. As Shakespeare remarked, perhaps with candy makers in mind: "Sweet are the uses of adversity."



The world has never yet caught up with its sweet tooth



INSTITUTE

An impartial reader service devoted to the analysis and discussion of the new or novel in methods of manufacture, supplies and equipment.

Moisture-proof Cellophane to Lengthen Shelf Life

TRANSparency, strength and flexibility have won for cellulose papers a unique place among wrapping materials. In order to attain its broadest application for certain types of packaging, however, it was early recognized that a paper must be produced which would prevent the contents of the package wrapped in it from either drying out or absorbing moisture. Two years of research have resulted in the production of an American manufactured moisture-proof cellophane. It retains all the accepted characteristics of ordinary cellulose papers and is in addition, moisture-resistant and moisture-repellant. While it is not claimed for it that it will hold water or withstand soaking in water for any length of time, practical tests have conclusively demonstrated that it is highly impervious to the passage of water vapors and, as in the case of ordinary cellophane, to air, gases, oils and greases.

Tests of the moisture-proof properties of the new paper were conducted, using the best quality of waxed paper as a standard. The wrapped products were permitted to stand under test conditions for a time equivalent to the average marketing period. In each instance, the cellophane-wrapped product was in a better condition when opened.

Tests were also made to determine the best method of wrapping and highly absorbent materials such as graham crackers were selected for the experiments. These were wrapped in three different ways:

1. A flat lap glued at the seam and ends;
2. A "confectioner's" fold, glued only at the ends;
3. A paper band around seams and ends.

The second type of package, the confectioner's fold and glued ends, permitted least moisture to enter and thus proved most satisfactory. It is interesting to note that this type of package is presumably the easiest to prepare, in view of the fact that it eliminates the necessity of adhesive on the seam, reduces labor costs and does away with other objections to the use of adhesives on small units.

As the sealing of this material natu-

rally requires transparent, colorless adhesives, it has been necessary to perfect these products also. There are no less than six different adhesives which may be used, according to the

particular wrapping problem encountered.

It has been found that this new transparency is not only moisture-proof but odor-proof as well. If the article is completely covered there is no penetration or absorption of odors either from the adhesive or from other contaminating sources.

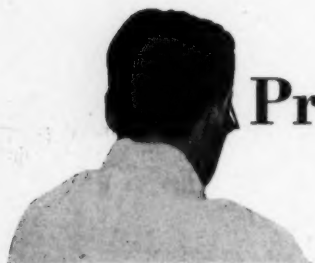
While the new type is not considered superior to plain cellophane in anyway other than moisture-proof properties, and is slightly more expensive, its use may be found desirable for certain types of candy, such as bar goods of the sticky variety; hard candies such as suckers, peppermint canes, etc.; nut bars; undipped nougat, caramel, cream work and marshmallow—in fact, wherever there is a marked tendency to dry out or grain upon exposure to damp or humid conditions.



Immersion in water indicates the wide range of packaging possibilities with moisture-proof cellophane.

A Factory Super Gets the "Up-and-Up"

on



Protective Colloids

By NORMAN W. KEMPF
Chemical Engineer

A story of genuine scientific interest
to the practical men of the industry

IT was a gloomy day in the Alice O'Dowd factory on East Hatteras street, for Ed, the Super, had just got a sound bawling out from the proprietor, because the cream goods had grained when they had been in stock less than a month. Ed felt particularly bad about it because once before when the same thing happened, Bill, his chemist, had suggested that he add some sort of high falutin' chemical compound to the batch. What was it he had called it? A "colloid." That was it—a "protective colloid." He remembered what he had told Bill, too. What candy needed to be protected against most, was *chemists*.

And now here was Bill gently but firmly rubbing it in—

"As I was saying before, what you need in that fondant to prevent crystallization is a protective colloid," the chemist repeated.

"Say, Bill," interrupted the Superintendent a bit impatiently, "do you suppose you could forget the big names for a minute and come down to earth with an explanation that a poor dumb Dutchman like me might understand?"

"I dunno, Ed; you're asking me a hard one, but let's see."

Resignedly, Ed sat down alongside the chemist's desk. "All I want to know," he said, "is what is a colloid, and what is it supposed to do.

I've read about them; I've heard you rave about them—and I admit I know less about them now than when you began."

"All right, Edwin, we'll get it across this time or die in the attempt. . . . You know what a solution is, don't you? Here, suppose we take this beaker of water and a spoonful of salt. We throw the salt in the water and it disappears—"

"Marvelous! Say, what the—"

"Never mind the poetry. It's not half as self-evident as you think it is. It's one of those scientific miracles which people are always taking for granted. The salt is still there; we know that if we taste the water. Why should it disappear the moment we put it in the water? Water is transparent. If we had put marble dust in it instead we would still be able to see it. Why not the salt?"

"It has gone into solution, nicht wahr?"

"Precisely. The salt crystals, or visible solid phase, have passed into the solvent and become invisible. But why?"

"I bite. Why?"

"Because the individual molecules of which the salt is composed, or small groups of them too small to be visible, reflect the rays of light passing through the solution, and blending with the rays of light reflected by the water molecules, we see only a clear, homogeneous pic-

ture of the two. On the other hand, if we evaporate the water, the salt returns to its original solid state, the solution depositing crystals as it becomes more and more concentrated."

"O.K., only I fail to see what that's got to do with colloids."

"Steady," replied Bill. "If we take this a little at a time it will last longer. You remember I explained to you once before that the salt in that solution 'ionizes'; that the resulting solution conducts electricity much better than pure water does. Here is a typical case of a 'crystalloid' going into solution. Do you follow me?"

"With one leg on the banister ready to slide down."

"The state of solution is said to be 'kinetic'; that is, the molecules are in constant motion and move freely about in the solution. Even without stirring or other agitation, salt placed in one part of the solution will eventually be evenly distributed throughout the entire body of the solution by virtue of the diffusion taking place through this motion of the molecules. They sort of keep bumping against one another and against the walls of the vessel which confines them until they eventually have spread to all parts of the solution."

"That's clever. O, for the life of a rollicking molecule!"

"And if we place a parchment membrane between a salt solution and pure water," Bill continued, "the salt molecules pass right through the parchment and into the water until the strength of the latter is equal to that of the salt solution and 'equilibrium' is said to have been reached."

"And now that you have a picture of an ordinary solution, it will be easier to understand how a colloidal solution differs from it. Consider the colloid gelatine for example. If we throw gelatine into cold water, instead of going into solution, the gelatine swells up."

"What's the matter with taking hot water?"

"I'm coming to that," said Bill. "If we heat the swollen mixture of gelatine and water, we get a solution whose component parts appear to be all alike. Nevertheless there are numerous ways of proving that this solution is *not* homogeneous but a heterogeneous mixture of two elements which are quite dissimilar in character and action."

THE MANUFACTURING CONFECTIONER

"In the first place, no ionization has taken place. The solution conducts electricity only slightly better than pure water does, and this, only because colloids themselves carry a slight electric charge. But the improvement in conductivity is in no way comparable to that which results when a crystalloid is dissolved in water.

"If we interpose our parchment membrane between a gelatine solution and pure water the gelatine does *not* pass through the membrane, but is held back by the membrane. To the chemist, this is an important point of difference between a colloid and a crystalloid. The latter will pass through a membrane; the former cannot.

"Finally, if we evaporate down the gelatine solution, instead of getting a separation of gelatine crystals as we would with salt or any other crystalloid, we find that the entire solution has assumed the form of a solid, notwithstanding the presence of a large amount of water. The colloidal particles apparently possess some peculiar property which enables them either to directly absorb the water, or to entrain particles of moisture upon their surfaces, and so binding it to form the characteristic solid which you and I know as jelly."

Bill studied the Superintendent for a moment to see how the ex-
planation was going over. Apparently satisfied with its reception, he continued:

"The point I am trying to bring out is that these differences in behavior between colloidal solutions and crystalloidal solutions indicate certain basic differences in the nature of the solutions themselves. They are two entirely different breeds of cat, do you see? The colloidal condition is *not* a true solution or even a homogeneous mixture."

"I'm ahead of you," Ed exclaimed. "I knew they were different all along—but what gets me is that it's taken you exactly seven minutes to find it out! Gosh, you chemists are slow."

"It has often taken me a great deal longer than that to find the combination to that big safe which you carry around on your shoulders, old boy—not that you're exactly stupid, but—"

"Whoa, bossy—whoa!"

"As I was saying *before* I was so rudely interrupted," Bill resumed with a twinkle, "a colloidal solution is a heterogeneous mixture of two substances—a solvent, in this case water, and minute particles of the colloid—gelatine."

"What would you call an emulsion—take an emulsion of flavoring oil in water, for instance?"

"A colloidal solution of the oil

in water. It has been shown that the colloidal condition is possible for almost any substance."

"Well, what else are the dumb things good for? I'm still waiting to hear what they have to do with my cream work."

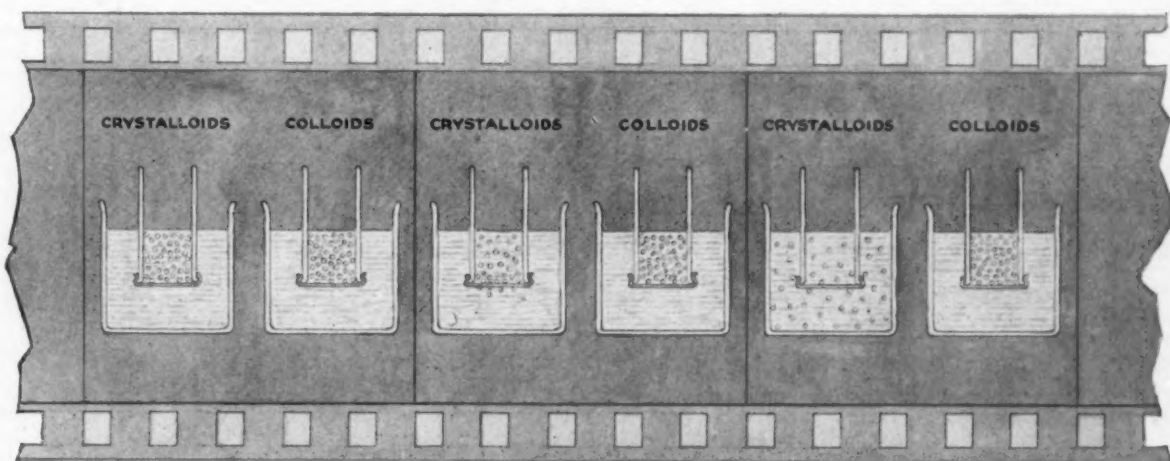
"I haven't forgotten about it; in fact, I'm coming to that now. Outside of the fact that the colloids enable you to produce gels, such as fruit jellies, gum drops, Turkish paste, etc., their chief interest to you as a candy man is the "protective" action which they exercise in preventing the crystallization of crystalloids such as sugar.

"When we have a solution which contains both a colloid and a crystalloid, a lot of interesting things are apt to happen. For instance, if the crystalloid should ionize, it would immediately throw the colloid out of solution. Practical use is made of this fact in the clarification of drinking waters through the addition of electrolytes. As the ions are formed, they precipitate the colloids and the water clears up.

"On the other hand, mixtures of colloids and crystalloids exist in which the colloid protects the crystalloid from performing its normal function of crystallizing. For example, the colloid dextrin prevents the crystalloid dextrose from crys-

(Continued on page 54)

MOVIE showing a fundamental difference between colloids and crystalloids--

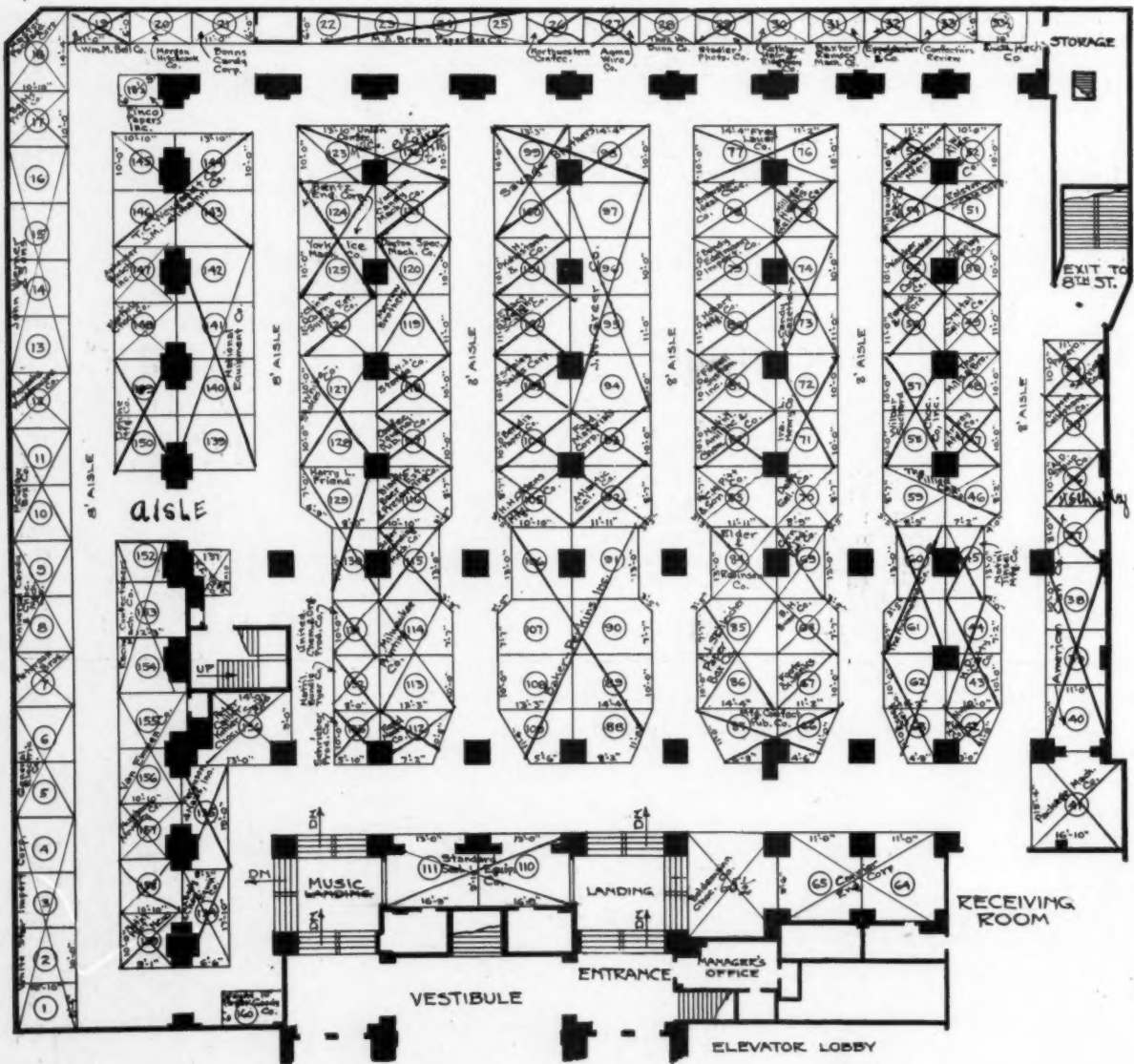


Interposing a parchment membrane between (1) a salt solution and pure water, and (2) a gelatine solution and pure water. The salt molecules (left hand beaker in each of the three "exposures") pass freely through the membrane and diffuse through the water; while the gelatine is held back (right hand "exposures")

SOLD OUT!

108 Exhibitors, representing the leading confectionery equipment and supply firms of America, take all the available floor space

at the 5th Annual Exposition of the N. C. A.



Floor Plan of the Exhibition Hall of the Stevens Hotel, Chicago

Showing position of each Exhibitor and Booth Numbers so they can be located easily from the directory on the opposite page.

Remember the date: **Week of June 4th, 1928-** Bring Your Buyers



Directory of Exhibitors

(See Floor Plan on Opposite Page for Location of Each Exhibit)

Suppliers to the Manufacturers of Confectionery:

ACME WIRE COMPANY, 403 Pennsylvania Building, Philadelphia, Pa. (No. 27)

Exhibiting something new in way of paper belting to be used on chocolate coating machines. In attendance: Samuel Croft.

J. W. ALLEN & CO., 116 N. Peoria St., Chicago, Ill. (No. 52)

Exhibiting J. W. A. nougat creams, Guittard chocolate, glace fruits, nut-meats, supplies. In attendance: Frank W. Allen, R. J. Hilsinger, Sherwin Murphy.

AMERICAN CAN CO., 120 Broadway, New York City. (Nos. 37, 38, 39, 40)

Exhibiting display of fancy packages, general line of decorated commercial goods, lithographed specialties, decorated display signs, etc. In attendance: H. E. Dygert, C. B. Cadwallader, F. A. Weyer, E. D. Murphy, E. H. Hoffman, C. S. Stephens.

ANHEUSER-BUSCH, INC., St. Louis Mo. (No. 147)

ARVEY MANUFACTURING CO., 421 W. Erie St., Chicago, Ill. (No. 47)

Exhibiting Arvey candy pails. In attendance: M. L. Katz, W. A. Johnson, L. R. Agatstein.

ASSOCIATED WOODEN WARE MANUFACTURERS, 280 Main St., Fitchburg, Mass. (No. 53)

ATLANTIC GELATINE CO., Woburn, Mass. (No. 92)

Exhibiting Edible gelatine. In attendance: Joseph H. Cohen, David C. Babcock, Arthur F. Vyse, Wallace H. Jose, George B. Rohling, Adrian LeRoy, and Robert Wotho.

BAKER PERKINS CO., INC., Saginaw, Mich. (Nos. 88, 89, 90, 91, 106, 107, 108, 109)

Exhibiting: Baker Perkins continuous cream plant, Baker Perkins chocolate conche machine, Baker Perkins chocolate egg moulding machine, Forgrove candy foiling machine. In attendance: A. F. Miller, C. W. Krack.

BAXTER RAMSEY CO., 317 Spruce St., St. Louis, Mo. (No. 31)

Exhibiting: Wood candy chests, candy boxes made of wood moulding with framed pictures on top of boxes. Electric advertising signs. In attendance: Edwin F. Zacharias.

WM. M. BELL CO., 6 E. Lake St., Chicago, Ill. (No. 19)

Exhibiting: Bell's black walnut flavor (original) vanilla true and compound flavors, and products made therefrom. In attendance: Oliver T. H. Kaut, J. J. Singer, D. Wertheimer.

BENDIX PAPER CO., 113 Fourth Ave., New York City. (No. 104)

Exhibiting: Printed box wraps for the candy trade, gold stamped labels for the candy trade. In attendance: Paul Bendix, G. B. Laurent.

BENTZ ENGINEERING CORP., 661 Frelinghuysen Ave., Newark, N. J. (No. 124)

Exhibiting: Model "CHILLBLAST." In attendance: Mr. W. E. Lowell, A. G. Luders, V. Kano, R. P. Rasmussen and Alan Perkins.

BETTS PRODUCTS CO., 321 W. Austin Ave., Chicago, Ill. (No. 17)

BLANKE-BAER EXTRACT & PRES. CO., 3232 S. Kingshighway, St. Louis, Mo. (No. 116)

Exhibiting: Full display of dipping fruits, pineapple cubes in various flavors and colors, pineapple prisms in various flavors and colors, peach cubes, dipping raisins, dipping kumquats, dipping strawberries, also extracts and other items used by manufacturing confectioners. In attendance: J. B. O'Connor, Dr. S. H. Baer, Miller Winston, C. H. Westaway, J. S. May and James Flanagan.

BOLDEMANN CHOCOLATE CO., 434 Townsend St., San Francisco, Cal. (No. 65 1/4)

Exhibiting: Chocolate coating machine for making chocolate coating, doing four operations in one. In attendance: Oscar Boldemann, A. Watson McAllister, Gerald M. Boldemann.

BONDE EDELMANN IMPORTING CO., 1445 W. Jackson Blvd., Chicago, Ill. (No. 79)

Exhibiting: Batik foils, lithographed labels, Clorophane & Vitrophan candy boxes, metal boxes, ribbons, box tops, etc. In attendance: V. O. Hermann, C. T. Froehlich, E. J. Meck, Miss M. Nobb.

BONUS CANDY CORP., 430 S. Green St., Chicago, Ill. (No. 21)

Exhibiting: Chocolate peanut cluster dipping machine. In attendance: L. J. Benvenuti and Elmo G. Lanzi.

BREWSTER IDEAL CHOCOLATE CO., Lititz, Pa. (No. 78)

M. A. BROWN PAPER BOX CO., 825 N. 17th St., St. Louis, Mo. (Nos. 22, 23, 24, 25)

Exhibiting: Fancy candy boxes. In attendance: Messrs. Fred E. S'Renco, J. W. Barrett, A. P. Jacobson and R. L. Magaw.

B. H. BUNN CO., 7329 Vincennes Ave., Chicago, Ill. (No. 68)

Exhibiting: Bunn package tying machines. In attendance: H. E. Bunn and B. H. Bunn.

CANDY & CHOCOLATE EQUIPMENT CO., 149 Charles, New York City, N. Y. (No. 134)

Exhibiting: Plastic candy machinery, chocolate machinery. In attendance: A. Hart, Jr., John Sheffman.

CARRIER ENGINEERING CORP., 750 Frelinghuysen Ave., Newark, N. J. (No. 64, 65)

H. D. CATTY CO., 417 Canal St., New York City. (No. 43, 44)

Exhibiting: Fancy papers, DuPont cellophane, aluminum foil. In attendance: Franz Euler, L. Perrenico, J. W. Taylor.

DIRECTORY OF EXHIBITORS

- CLINTON CORN SYRUP REFIN. CO.,** Clinton, Iowa. (No. 126)
- CORN PRODUCTS REFINING CO.,** 17 Battery Pl., New York City. (No. 69)
- CRYSTAL GELATINE CO.,** 121 Beverly St., Boston, Mass. (No. 49)
- DAYTON SPECIALTY MACHINE CO.,** 57 Hollencamp Ave., Dayton, Ohio. (No. 120)
- Exhibiting: Cream beater. In attendance: Fred J. Blesi.
- DELFT GELATINE CO.,** 160 Broadway, New York City. (No. 70)
- Exhibiting: Delft pure food gelatine. In attendance: G. J. Schildt, Frank Z. Woods, Harry P. Calvert and Francis A. Crotty.
- THE DELINE MFG. CO.,** 11th and Santa Fe Sts., Denver, Colo. (Nos. 149, 150)
- THOS. W. DUNN CO.,** 546 Greenwich St., New York City. (No. 28)
- Exhibiting: All grades of gelatine, especially produced and blended for the candy and ice cream industries. In attendance: Messrs. F. E. Hollweg, G. L. Newman, H. C. Merle, H. F. Koop.
- DU PONT CELLOPHANE CO.,** Park Ave. Bldg., 32nd St. and Fourth Ave., New York City. (No. 35)
- Exhibiting: A complete array of "Cellophane" wrapped candy items, supplemented by a display of interesting "Cellophane" wrapped products in other varied industries. The new moistureproof "Cellophane" will be featured. In attendance: L. B. Steele, A. W. Shaffer.
- ELDER & ROBINSON,** 5711 W. Chicago Ave., Chicago, Ill. (No. 84)
- Exhibiting the most highly improved machine on the market for producing quality filled candy. In attendance: Earl B. Elder, A. W. Robinson.
- EPPELSHEIMER & COMPANY,** 34 Hubert St., New York City, N. Y.
- ESSEX GELATINE CO.,** 40 N. Market St., Boston, Mass. (No. 62, 63)
- Exhibiting: Excellent marshmallows based on Dr. Duecker's research; firm gelatine candies, other gelatine candies, gelatine (edible). In attendance: Lewis B. Esmond, Robert E. MacFarland, Oscar W. Johnson, Frank E. Poulterex, Dr. Werner W. Duecker.
- EXACT WEIGHT SCALE CO.,** 263 W. Spring St., Columbus, Ohio. (No. 102)
- Exhibiting: "Exact Weight" scales for manufacturing confectioner, for wholesale candy dealer, and for retail candy counter. In attendance: Wm. A. Scheurer.
- FERGUSON & HAAS, INC.,** 515 Greenwich St., New York City, N. Y. (No. 135)
- FINNELL SYSTEM, INC.,** Elkhart, Ind. (No. 81)
- Exhibiting: Electric floor scrubbing machines, mopping machines, mop trucks, and water absorbers. A working display of the Finnell equipment and system for electric floor scrubbing, waxing and polishing. A new model 18-inch machine will be shown. In attendance: F. C. Poley, Peter Storm, H. A. Brim, L. Caywood and D. D. Brim.
- FOOD MATERIAL CORP.,** 220 N. Desplaines St., Chicago, Ill. (No. 93)
- Exhibiting: Finished candy displayed for the purpose of demonstrating to the manufacturer the manufacturing and sales possibilities made possible through the proper use of flavors, colors, etc. In attendance: R. J. Rooney, W. F. Leonard, E. E. Feight, H. E. Allen, G. R. O'Brien, C. J. Schroeder, Ira A. Harmon, H. B. Watson, Wm. Sachse, E. G. Alden, E. Bushnell, J. F. Ferguson.
- FOOTE & JENKS, INC.,** 240-242 West Cortland St., Jackson, Mich. (No. 67)
- Exhibiting flavors and flavor concentrates. In attendance: C. R. Foster, A. A. Koch, C. H. Redding.
- HARRY L. FRIEND,** 152 Milk St., Boston, Mass. (No. 129, 130)
- Exhibiting: Actual operation of all models including the latest machines shown for first time; Friend plastic center machines, especially the new "Leviathan" model. In attendance: Harry L. Friend.
- GENERAL ELECTRIC CO.,** Schenectady, N. Y. (Nos. 5, 6)
- J. W. GREER CO.,** 119-137 Windsor St., Cambridge 39, Mass. (Nos. 94, 95, 96, 97)
- Exhibiting: Complete chocolate coating and cooling unit, chocolate melting kettles, crystalizing rack and one or two special machines. In attendance: J. W. Greer, Fred W. Greer, Alfred Martin and Harry B. Howe.
- IRA L. HENRY CO.,** Watertown, Wis. (Nos. 71, 72)
- Exhibiting general line of hearts and other fancy boxes. In attendance: E. F. Goecke, W. Otto, N. T. Yeomans.
- HOBART MFG. CO.,** Penn Ave. and Simpson St., Troy, Ohio. (No. 80)
- Exhibiting the line of Hobart candy machines; unit machines which will cook, stir, cream, whip, beat, mix, grind, pull, coat, polish, glaze, and remelt. In attendance: Milton K. Akers, A. L. Norrington, Arthur De Long.
- A. HUHN MANUFACTURING CO.,** 3915 Hiawatha Ave., Minneapolis, Minn. (No. 42)
- Exhibiting: One Scene-in-Action display of our system of the handling of starch. In attendance: A. G. Huhn, president of the company; A. D. Bullerjahn, engineer; A. W. Patzlaff, I. H. Norton.
- JEWEL DISPLAY CO.,** 1421 61st St., Chicago, Ill. (No. 50)
- KNICKERBOCKER CASE CO.,** 2311-2329 N. Crawford Ave., Chicago, Ill. (No. 55)
- Exhibiting salesman's sample cases. In attendance: R. S. Thompson, M. C. Kosanke, A. R. Miller, G. W. Schweitzer.
- H. KOHNSTAMM & CO., INC.,** 11 E. Illinois St., Chicago, Ill. (No. 101)
- Exhibiting: Atlas certified colors, genuine fruit extract and imitation flavors. In attendance: Mr. Hugo Pulver, Mr. Harold Weil, Mr. E. A. Pfeiffer, Mr. A. C. Hassel, Mr. Geo. Verry, Mr. W. H. Nelson and Mr. Justin Pulver.
- FRED LAUER,** 3516 Carroll Ave., Chicago, Ill.
- J. M. LEHMANN CO.,** 248 W. Broadway, New York City, N. Y. (No. 44)
- Exhibiting: Five-roll finisher with roller bearing. In attendance: E. Raue, M. E.
- McGRAW BOX CO.,** 200 Fifth Ave., McGraw, N. Y. (Nos. 76, 77)
- THE MASTER PACKAGE CORPORATION,** Owen, Wis. (No. 18)
- Exhibiting: Full display of metal bound fibre shipping drums and pail in standard and special construction for packing and shipping candy, cocoa, bakers and confectioners supplies and any other dry products. Also showing various uses of the containers after emptied and featuring the resale value. Drums and pails known as "The Master." In attendance: Mr. W. J. Mahoney, Mr. Martin Brandon, Mr. Frank M. Davis.
- MENASHA WOODENWARE CO.,** Menasha, Wis. (No. 12)
- Exhibiting: Kraft corrugated boxes and basswood candy pails. In attendance: W. E. Bond and J. C. Brill.
- MERROW BROTHERS,** 117 Atkinson St., Boston, Mass. (Nos. 119, 120)
- MILLIGAN & HIGGINS GELATINE CO.,** 222 Front St., New York City, N. Y. (No. 75)
- Exhibiting: M & H gelatine. In attendance: Charles Blake, F. L. Carroll, L. T. Dutton, H. P. Sawyer, H. T. Hall.
- THOS. MILLS & BROS., INC.,** 1301-15 N. 8th St., Philadelphia, Pa. (No. 48)
- Exhibiting: Improved confectionery machinery and electrical labor saving devices. In attendance: Geo. M. Mills, G. Thos. Mills, John G. Mills.

THE MANUFACTURING CONFECTIONER

MILWAUKEE PAPER BOX CO., 730 South Pierce St., Milwaukee, Wis. (No. 54)

Exhibiting a complete line of "Brain Built" special design boxes. Also a good assortment of special designs crated by Parisian artists will be at hand to show to interested parties. In attendance: Walter S. Burmeister, E. Formont.

MILWAUKEE PRINTING CO., 377 Florida St., Milwaukee, Wis. (Nos. 113, 114)

Exhibiting: Glassine bar wraps, printed cellophane, box wrappers, display Caros outdoor signs, window strip, folding boxes, cartons, advertising literature. In attendance: William Heller, Lester R. Zimmerman, Roy E. Hanson, Russell Faulkner.

MORGAN HITCHCOCK CO., 70 E. 45th St., New York City, N. Y. (No. 20)

Exhibiting: Candy sucker sticks for machine and hand-made suckers, also special sticks. In attendance: L. B. Hanafec, John Hanafec.

NATIONAL ANILINE & CHEMICAL CO., 40 Rector St., New York City, N. Y. (No. 82)

Exhibiting: National certified food colors and National malic acid F. P. In attendance: Frank W. Green, in charge of Certified food color department at New York; George Magee, New York office; C. E. Blakely, Charlotte office; E. Weber, Dr. F. E. Beecher and E. R. Davies of the Chicago office.

NATIONAL BUNDLE TYER CO., Blissfield, Mich. (No. 132)

NATIONAL EQUIPMENT CO., Springfield, Mass. (Nos. 139, 140, 141, 142)

Exhibiting: Enrober, Springfield coater, Springfield continuous cooker. In attendance: Frank H. Page, George A. Bausman, A. Linton Bausman, Frank S. Moulton, B. E. C. Gillette, H. C. Baum, W. G. Tucker, Ralph Duchacek, D. C. Cottreal.

NATIONAL TINSEL MFG. CO., Manitowoc, Wis. (No. 45)

Exhibiting: Tinsel cords, tinsel ribbons, tying material. In attendance: C. A. Kohl.

THE NULOMOLINE CO., 111 Wall St., New York City, N. Y. (Nos. 60, 61)

In attendance: Mr. James A. King, Mr. Charles Fahrenkamp, Mr. James P. Booker.

NUSSEBAUM NOVELTY CO., Berne, Ind. (No. 157)

Exhibiting cedar candy chests. In attendance: Sam Nussbaum, manager and president.

HENRY H. OTTENS MFG. CO., 127 S. Front St., Philadelphia, Pa. (No. 105)

PACKAGE MACHINERY CO., Springfield, Mass. (No. 41)

PAPER SERVICE CO., 19 S. Seventh St., Philadelphia, Pa. (No. 34)

Exhibiting: Fancy papers for covering fancy candy boxes. In attendance: W. A. Welsh, E. M. Hood, A. H. Wilkins.

PENICK & FORD SALES CO., INC., Cedar Rapids, Iowa. (No. 56)

Exhibiting: Confectioners corn syrup, confectioners starches, corn sugar and molasses. In attendance: D. P. O'Connor, H. A. Horan, C. W. Bloomhall, G. C. Gallerman, Geo. L. Dautel.

PETER CAILLER KOHLER SWISS CHOCOLATE CO., 131 Hudson St., New York City, N. Y. (No. 136)

Exhibiting: Peter's milk, vanilla, and sweet chocolate coatings; Peter's cocoas. In attendance: Mr. W. K. Wallbridge, Mr. Guy S. Jenkins, Mr. A. C. Ferry, Mr. J. R. Rice, Mr. R. J. Dempsey, Mr. J. H. Baker.

PETERSEN BROTHERS, 165 N. Elizabeth St., Chicago, Ill. (No. 7)

THE PILLIOD CABINET CO., Swanton, Ohio. (Nos. 59 and 46)

Exhibiting: Merchandising packages for candy, and other products including those made of cedar.

In attendance: T. J. Pilliod, manager, E. H. Bergin, director of sales, J. W. Barrett, western representative.

PINCO PAPERS, INC., Camden, N. J.

C. M. PITT & SON CO., Lombard & Commerce, Baltimore, Md. (No. 83)

Exhibiting: Velvet dipping cherries, pineapple cubes, cherry pieces, pineapple hearts, glace whole cherries, pineapple slices, wedges, fingers and quarters and velvet flavors. In attendance: C. Blake Pitt, Arthur C. Beall.

RACINE CONFECTIONERS & MACHINERY CO., Racine, Wis. (Nos. 152, 153, 154)

RALSTON SCALE CORP., Columbus, Ohio. (No. 51)

Exhibiting: New line of candy packing scales of the "over and under" even balance type known as the Ralston Accurate Weight scale. In attendance: A. C. Ogden, N. A. Hallwood.

RATHBORNE, HAIR & RIDGWAY CO., 2138 S. Loomis St., Chicago, Ill. (No. 30)

Exhibiting: Wooden boxes (nailed), wirebound boxes, starch boards. In attendance: E. N. Anderson, D. M. Holensshade.

MAURICE RAVED, 1140 Broadway, New York City. No. 27)

READ MACHINERY CO., York, Pa. (No. 112)

Exhibiting: 80 quart size Read 3 speed candy beater, small 10 quart size beater, assortment of candy manufactured on a Read beater. In attendance: P. D. Hendrickson, J. S. Prendergast.

SAVAGE BROTHERS, 2638 Gladys Ave., Chicago, Ill. (Nos. 98, 99, 100)

F. J. SCHLEICHER PAPER BOX CO., 1811 Choateau Ave., St. Louis, Mo. (Nos. 85 and 86)

Exhibiting: A complete line of printed trade mark and fancy paper candy boxes, including special boxes for commemorative days.

SCHRIEBER PRODUCTS CO., 662 Fillmore Ave., Buffalo, N. Y. (No. 133)

Exhibiting: Spramalt, Spramalt-B, malt sugar products, chocolates, chocolate coatings, marshmallows and various confections in which these products were used. In attendance: James R. Kearney, A. Ashton Reed, W. M. Brownell.

H. SCHULTZ & CO., 519 W. Superior St., Chicago, Ill. (No. 36) Reception Room Only.

In attendance: H. Schultz & Co., F. P. Wagner; A. D. Shoup Company, H. L. Dikeman, Eastern Manager.

SMITH-HECHT CO., Indianapolis, Ind.

STADLER PHOTOGRAPHING CO., 1322 S. Wabash Ave., Chicago, Ill. (No. 29)

A. E. STALEY MFG. CO., Decatur, Ill. (No. 103)

Exhibiting: Confectioner's corn syrup unmixed, confectioner's special moulding starch, confectioner's thin boiling starch. In attendance: E. K. Scheiter, R. M. Ives, C. C. Hollis, J. W. Hixson, L. R. Dickinson, Wm. H. Randolph, Jr.

STANDARD SEALING EQUIPMENT CO., Rawson St., Nr. Queens Blvd., Long Island City, New York. (Nos. 110, 111)

Exhibiting: Automatic case packing and automatic sealing machines. In attendance: A. E. Rideout, George Ingham and Malcom, McFaul.

W. J. STANGE CO., 2549 W. Madison St., Chicago, Ill. (No. 118)

Exhibiting: Certified colors, flavoring materials and one specialty "Alpha Bouquet." In attendance: Wm. J. Stange, Pres., Frank M. Hattigan, Sec.

SUGAR SANDING MACHINE CO., 2325 Edmonson Ave., Baltimore, Md. (No. 115)

R. C. TAFT CO., 174-178 N. Franklin St., Chicago, Ill. (No. 137)

Exhibiting: Decorative package tying fabrics, Mecca satin ribbons, Rib-o-net, Tin-sel-tie ribbons and cords, Vis-ca-bon and rayon fabrics. In attendance: Clair Taft, Miss Myrtle Johnson.

UNION CONFECTIONERY MACHINERY CO., 318 LaFayette St., New York City, N. Y. (Nos. 122, 123)

THE MANUFACTURING CONFECTIONER

In attendance: Joseph Greenberg, Herman Greenberg, Charles Balin.

UNITED CHEMICAL & ORGANIC PROD. CO., 4200 S. Marshfield Ave., Chicago, Ill. (No. 131)

Exhibiting: Gelatine. In attendance: J. W. Burns, J. A. Hafner, M. H. Hayman, J. J. Rawle, E. G. Buchannan, J. E. Price, P. T. Storr.

UNIVERSAL CANDY & CHOCOLATE MACHINERY CO., 4 Fisk Ave., Springfield, Mass. (Nos. 8, 9)

Exhibiting: 12-in. coating machine with bottoming attachment, also 150 motor driven chocolate melting kettle. In attendance: P. Bates and Oscar E. Segrin.

VACUUM CANDY MACHINERY CO., 74 Pearl St., Jersey City, N. J. (No. 21)

Exhibiting: Simplex hard candy equipment, Simplex gas vacuum cooker, Simplex steam vacuum cooker, Simplex continuous cutter. In attendance: S. S. Whitehurst, Blair MacQueen.

VAN EMDEN CO., 1200 Broadway, New York City. (Nos. 155, 156)

Exhibiting: Fancy aluminum and tin foils, imported and domestic chocolate and ice-cream moulds, filling and weighing machines and other machinery and equipment. In attendance: Mr. A. E. Van Emden, C. S. Van Winkle.

WARFIELD CHOCOLATE CO., 536 W. 22nd St., Chicago, Ill. (No. 148)

Exhibiting: Various grades of chocolate coatings, liquors, and cocoas in bulk and small sample form. Exhibits of Warfield's chopped almond and flaked malted milk chocolate bars. In attendance: Mr. Robert G. Warfield, Pres., Mr. John D. Warfield, Vice Pres., Mr. Paul M. Hershey.

WAYNE PAPER GOODS CO., Ft. Wayne, Ind.

JOHN WERNER & SONS, Rochester, New York. (Nos. 13, 14, 15, 16)

T. G. WEYGANDT CO., 248-250 W. Broadway, New York City. (Nos. 143, 144, 145 and 146)

Exhibiting: Chocolate and candy machinery. In attendance: Ernst Faber and Oskar Haas.

WHITE STAR IMPORT CORPORATION, 621

Broadway, New York City. (Nos. 1, 2, 3 and 4)

Exhibiting: "Hansella" automatic plastic plant latest type, "Henkova" drop roller machine novel design; aluminum foil of extra soft quality, flavoring extracts in powder, liquid and paste forms. In attendance: R. Grohskopf, S. Schwartz, S. B. Shirk, E. Berten.

WHITE-STOKES CO., 3615 Jasper Pl., Chicago, Ill. Nos. 127, 128).

Exhibiting: Regular line with some rather interesting features in regard to new product Jelzit Powder. In attendance: H. McKenna, H. J. Thurber, J. E. Lynch, L. O. Stokes, F. J. Lawrence, A. B. Cassidy.

WILBUR SUCHARD CHOCOLATE COMPANY, INC., 235 N. Third St., Philadelphia, Pa. (Nos. 57, 58)

Exhibiting: American and European chocolate coatings, liquors and ice cream powders and cocoas; also Wilbur's and Suchard's chocolate package goods. Modernistic booth display with motion pictures as special feature. In attendance: Mr. S. H. Stayton, Mr. Wm. A. Goebel, Mr. J. A. MacWilliams, Mr. A. L. Gardner, Mr. Philip Grede, Mr. T. J. Smith, Mr. A. W. Pierce, Mr. L. E. Pierce, Mr. H. H. Simpson, Mr. C. W. Pryor, Mr. H. A. Degan, Mr. George F. Reid.

YORK MANUFACTURING COMPANY, York, Pa. (No. 125)

PUBLICATIONS

CANDY GAZETTE, New York City, N. Y. (Nos. 73-74)

CONFECTIONERS' JOURNAL PUBLISHING CO., Philadelphia, Pa. (No. 117)

CONFECTIONERS' REVIEW, Cincinnati, Ohio. (No. 33)

LIGHTNER PUB. CO. (National Nut News), 2239 S. Michigan Ave., Chicago, Ill.

THE MANUFACTURING CONFECTIONER PUBLISHING CO., 30 N. LaSalle St., Chicago, Ill. (Nos. 87, 86)

NORTHWESTERN CONFECTIONER, Milwaukee, Wis. (No. 26)

Protective Colloids

(Continued from page 49)

tallizing out of the stable solution which you and I know as corn syrup. Whether you use corn syrup in hard candy or in fondant, you are utilizing the protective action of the dextrin which it contains, to prevent the cane sugar from forming large crystals as it normally would if left to its own devices. Gelatine, albumen and pectin are other colloids which exert a similar action in creams.

"The exact mechanism of the protective action of colloids is difficult to understand, but that doesn't prevent us from using it to advantage in the manufacture of candy. And that's all that was the matter with that cream of yours, Ed; it needed

a little gelatine, or a little pectin, perhaps.

"And I suppose," said the Super, sheepishly, "you are going to tell me that inasmuch as I have been playing around with the dumb things for 20 years, it's about time I found out what they were good for. Let's see, now—dextrin, that's from corn syrup; gelatine; fruit pectin—what were the others?"

"Albumen, Jap gelatine, the starches, gum like Arabic and Tragacanth, the casein from milk products—that ought to do you for the present, Ed—especially since you would only have needed one of them to patch up that mess of brickbats in the stock room--"

Just then the plant auto-call summoned the Superintendent to duties elsewhere.

"I'll try that, Bill," were his last words. "Will you revamp the cream formula for me, using gelatine or pectin or whatever you think best?"

"Sure enough," Bill replied wearily as he mentally "chalked up another" for Applied Science.

(If you like this method of presenting facts pertaining to the chemistry of candy-making, drop us a line and tell us so. This is your paper and any comments or suggestions which you may care to make will be appreciated.—The Editor.)

NEWS DIGEST

Chocolate Association Elect Officers

At the annual meeting of the Association of Cocoa & Chocolate Manufacturers of the United States, held at the Hotel Pennsylvania, New York, on March 28th, the Officers and Executive Committee were re-elected for the ensuing year as follows:

President—Wm. F. R. Murrie, President, Hershey Chocolate Company.

Vice-President—Wm. B. Thurber, President Walter Baker & Company, Inc.

Treasurer—Wm. H. Watt, Vice-President Hooton Cocoa Company.

Secretary—Wm. K. Wallbridge, President Peter Cailler Kohler Swiss Chocolates Co., Inc.

Executive Committee—Wm. F. R. Murrie, Wm. B. Thurber, F. L. Lamson, S. P. Goble, Louis Runkel, Wm. K. Wallbridge, Wm. H. Watt.

Chester A. Asher Builds New Factory

Chester A. Asher, Philadelphia, has let a contract for a four-story reinforced concrete factory to be built at 5606 Germantown Ave. The building will be 50x52 feet.

Nancy Hart Shops Now in the West

C. R. Coombs, who recently disposed of his long chain of Nancy Hart shops and studio factories in Ohio, Indiana, and Kentucky, has arrived, with Mrs. Coombs in the Pacific Northwest. He established late in April headquarters at 1115 Fifth avenue, Seattle, where he has begun the manufacture of chocolate candies and bon bons from old English recipes. He has taken leases for two Seattle stores, at 1115 Fifth avenue and another at Westlake avenue and Times Square, the latter to open first, for the sale of the candy which he will manufacture.

Mr. Coombs is a graduate of McGill University at Montreal, Canada, holding the sheepskin given by that university as "candy chemist." He has made candy in the famous candy ateliers in England, France, and Germany.

He will call the new stores being established in Seattle Nancy Hart shops and studios, and plans to have ten shops and studios for the manufacture and sale of his confections in operation through the state of Washington in the near future.

Another Building for Baby Ruth

The Curtiss Candy Company have leased another large factory building at 349-403 East North Water Street, Chicago, for a term of twenty years. The building is a four-story structure, with basement, containing 125,000 square feet. It is ideally located for transportation facilities, both rail and water, being opposite big docks on the Chicago river, and has trackage for loading five freight cars at a time. The Chicago tunnel is only a half block away. Another feature of this plant is that light and air are afforded on all four sides. The Baby Ruth manufacturers now have four candy factory buildings in Chicago, with a total area of approximately 375,000 square feet.

The Buddy Squirrel-Nut Shops Expand

The Buddy Squirrel Nut Shops, the second of which has been opened at Seattle, headquarters of the company, with others recently opened in Portland, Ore., and Kansas City, to be followed by still more in different parts of the country, has developed a new peanut brittle. Manufacturing it of cashew nuts and cocoanuts, it is seeking a new name for the new product which the trade character "Buddy Squirrel" helps to sell.

A New Factory for Ostler Candy Co.

The Ostler Candy Company, of Salt Lake City, Utah, is building a new factory at 143 South State Street, according to Harry Ostler, president of the company, four times as large as their present plant, and, Mr. Ostler, added, plans for future expansion have been provided for.

The estimated floor space of the new factory, to be ready

June 1, is 30,000 square feet. There will be six furnaces for candy making, and all equipment will be of the latest style. Partitions for departments of the plant will be made of glass for purpose of securing better lighting facilities than are usually available. There will be cork-insulated cooling rooms so that constant temperatures may be maintained for dipping chocolates and preserving stock. The plant will be on the second floor, and the main floor will be devoted to offices and display rooms.

The unique color scheme of the entire building will be the trade marked "Paradise" lavender.

There will be a big public reception when the plant is opened June 1. The company was organized in 1919.

J. E. Wiswell Moves to Pueblo, Colorado

J. E. Wiswell, who for some years has operated a candy factory at La Junta, Colorado, has removed to Pueblo, Colorado, 607 N. Main Street, and opened in the new location May 1st. He has entered into a partnership with Edna Wells of Pueblo and the plan is to increase production on the high grade goods that Wiswell has been turning out. The operation of a retail store in La Junta, the property of Wiswell, will be continued.

With the Supply Field

Package Machinery Firms Consolidate

In order to give their customers the benefit of a larger organization, a more varied line of machines, and a broader knowledge and greater inventive ability for solving the many problems that arise, the Package Machinery Company and Ferguson & Haas, Inc., have joined hands, and as of May 31, 1928, will operate under the name of Package Machinery Company, Springfield, Mass.

Both Mr. Ferguson and Mr. Haas will be actively identified with the business, bringing with them the most valuable men in their organization.

Bentz Appoint Philadelphia Agent

The Bentz Engineering Corporation of Newark, New Jersey, have appointed Pralatt Equipment Company of 517 Drexel Building, Philadelphia, Pa., district sales representative for Eastern Pennsylvania, Southern New Jersey, Delaware and Eastern Maryland.



Greer Boys to Study European Methods of Production

It has been announced that Fred W. and Don S. Greer, sons of J. W. Greer, President of the G. W. Greer Company of Cambridge, will tour Europe this Summer. The young men plan to visit the leading candy, biscuit, confectionery and chocolate plants in England, France, Holland, Switzerland and Germany. They will make an intensive study of European manufacturing methods and equipment. This trip is planned to round out a knowledge that will fit

THE MANUFACTURING CONFECTIONER

the Greer boys to carry on their father's business policies and the production of Greer Confectionery Machinery.

Fred W., the elder son, graduated from Massachusetts Institute of Technology in 1925, where he specialized in mechanical engineering. He is Secretary of the Company and has charge of the special designing.

Don S., the younger son, is a junior in Harvard University Engineering School. After graduating from this department, he plans to continue on through the Harvard Graduate Business School, to equip him to take his place in the administrative department of the J. W. Greer Company.

Both of the Greer boys have spent their summers, while home from school, working in the factory, so as to acquire a practical knowledge of the company's machinery production. J. W. Greer, the father, says that he expects the boys will come back with the best European ideas, some of

which may be incorporated in the Greer machines. At least he expects the boys to know what it is all about and to have a more comprehensive knowledge of the needs of the confectioner in his production operations.

W. G. Ungerer in Europe

Mr. W. G. Ungerer, President of Ungerer & Co., New York, sailed for Europe Saturday, April 14th, on the S. S. "France," accompanied by Senator Eugene Charabot of Charabot & Co. (Hugues Aine), Grasse, France, represented in the United States and Canada by Ungerer & Co.

Senator Charabot, who represents the Department of the Alpes-Maritimes in the French Senate, arrived in New York April 3rd on the S. S. "Ile de France." He was compelled to cut his visit short and return to France on account of the elections.

Answers to Question 5 of the Annual Chocolate Roundtable

The Question: In line with the N. C. A.'s announced intention to provide suitable recognition to the individual or organization whose constructive accomplishment during the past year constituted the greatest single benefit to the confectionery industry, what person or persons in the chocolate industry would you consider worthy of this recognition and why?

The Answers:

N. Y. 10ab—S. P. Goble, Vice President of Rockwood & Co. This gentleman, through his efforts, is responsible for the appropriation by Congress of \$60,000 for Trade Commissioners to the cocoa regions of West Africa. Had these commissioners been acting in 1926, the industry as a whole would not have suffered from the manipulated high prices.

Cal. 17a—We are unable to mention the name of any person or persons who would be entitled to recognition for constructive accomplishment during the past year.

N. Y. 16a—We are unable to give any opinion, as the interpretation of this question is capable of many variations.

Penn. 6a—We know of no outstanding person in the chocolate industry entitled to special recognition.

Cal. 1a—Pilgrim Chocolate Co. for making finest chocolates; Ernest Wilson Co. for putting out finest quality chocolate candy, \$2.50 per lb.

Ill. 13ab—Wish to advise that we do not know of any individual or organization in the chocolate industry having done anything outstanding for the benefit of the confectionery industry.

N. Y. 18a—I think Mr. August Merckens is worthy of the consideration of the committee which is to pick out the worthy man, due to the fact that he has always, not only in the past year but in all the years he has been in business, been a strong upholder and worker for quality in candy

and chocolate. The fact that there has been a great improvement in chocolate coating in the past few years, I personally believe, is due largely to his efforts and due to the fact that his competitors had to improve their chocolate in order to meet his competition.

The candy business in the last year or so has been rather slow—competition very keen; more so in the candy business than in the chocolate end of it; and the quality of the candy made has been poor and is getting worse. This is probably the reason the candy business was slow, but a good many concerns have seen the light and are beginning to make a better product, dropping the poor quality lines; and I personally believe that Mr. Mercken's efforts toward always making high-grade chocolate have had something to do with the general change in the attitude of the Candy Industry. When the committee which is to pick out the individual who deserves special merit meets, I think they should consider his name.

Editor's comment: The majority of the replies to the chocolate questionnaire passed over this question without comment. It is especially significant that, notwithstanding the great strides which have been made in the technical and scientific development of the industry, not one of the correspondents had any suggestions to offer on this vital phase. We do not believe that this is a complete picture, and we earnestly hope that the committee's inquiries in other directions have been more productive of ideas.

(To be concluded in next issue.)

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